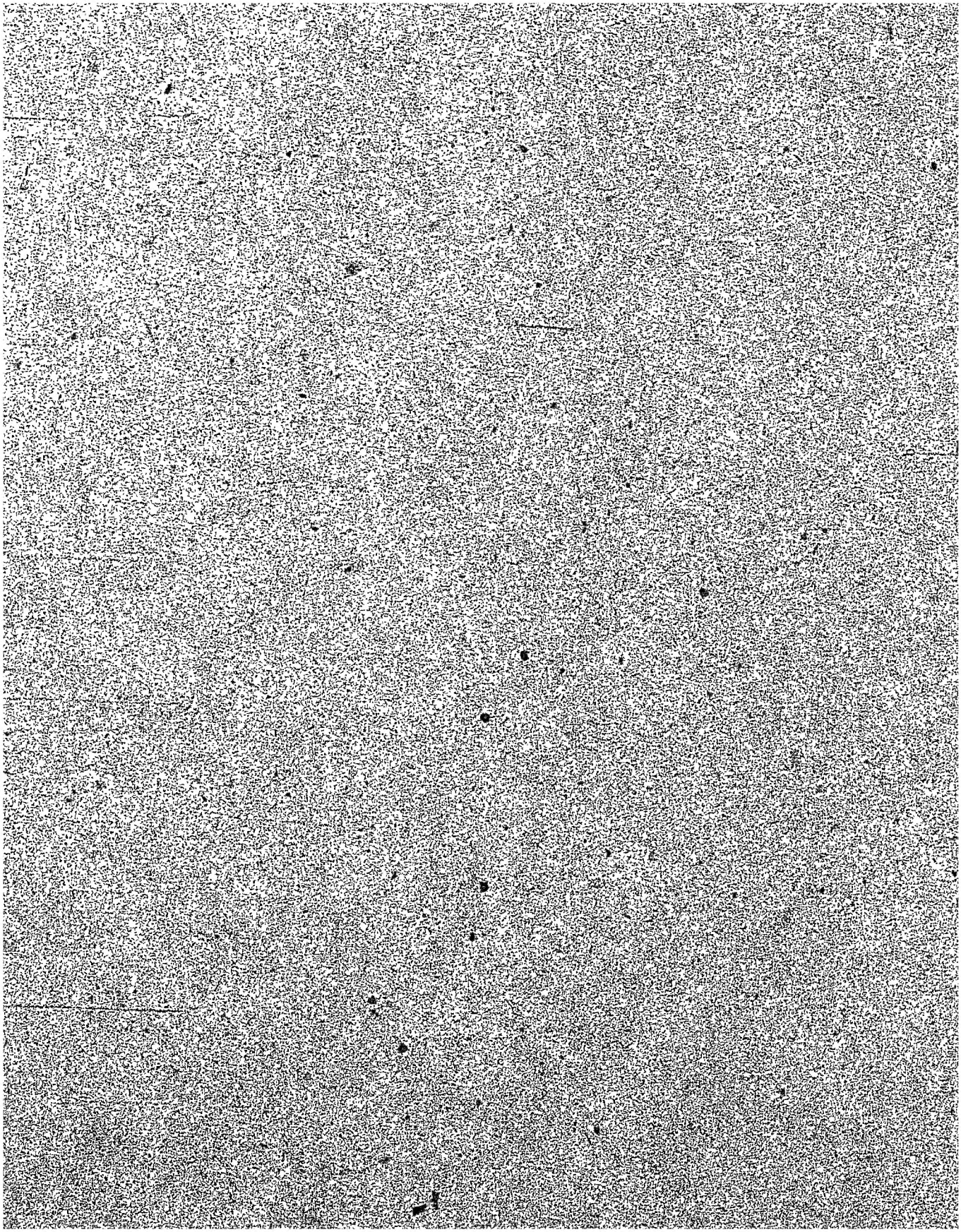
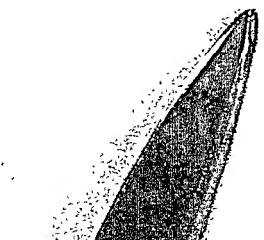


HUDSON'S BAY AND STRAIT.

By Commodore A. H. Markham, R.N.



HUDSON'S BAY AND STRAIT.

By Commodore A. H. Markham, R.N.*

The question of the practicability of navigating Hudson's Strait in safety during a certain period of the year, has lately excited much interest, and has occupied a good deal of public attention on both sides of the Atlantic for reasons apart from geography. At the same time it is a question of considerable geographical importance, especially when considered in connection with the movements of the ice in that region.

The reason that attention has recently been drawn to this out-of-the-way, and somewhat dreary, locality is, in a great measure, due to the fact that a scheme has been recently started, having for its object the construction of a railroad that would connect Winnipeg, and other important towns on the line of the Canada and Pacific Railroad, with some harbour on the shores of Hudson's Bay.

The inhabitants of the North-West are naturally desirous of possessing a seaport which they can call their own, situated nearer to their cattle-raising and grain-producing districts, than either Montreal or New York, to which ports all the produce of Manitoba and the North-West have hitherto had to be shipped for transportation to Europe. The only way by which this desire can be attained and their hopes fulfilled is by the creation of a seaport somewhere on the shores of the west coast of Hudson's Bay, connected by rail with Winnipeg, or some other large commercial emporium in Manitoba. This would give an outlet to the rapidly growing trade of the North-West, and would fill a want that has long been felt, and which is now pressing harder than ever on the residents of that great expanse of country situated in Canada, to the eastward of the Rocky Mountains.

I do not, however, in this paper, propose to discuss either the desirability, or the practicability, of constructing a railroad such as is suggested, but simply to write a brief history of what has already been achieved of geographical interest in Hudson's Strait and Bay, in view of the possibility of the route being sooner, or later, opened to commerce.

I experienced so much difficulty myself in obtaining information regarding these regions, and had to hunt up and refer to so many books

* An abstract of this paper was read before the Society at the Evening Meeting, June 11th, 1888, and published, with the discussion which followed, and a map in illustration, in 'Proceedings R.G.S.,' 1888, pp. 549 *et seq.*—[Ed.]

on the subject, that I considered an account written for our Society, in a somewhat condensed form, would prove useful and of interest to the Fellows, and also to others, who may be desirous of becoming acquainted with a part of the world which may at no distant date become of considerable commercial and geographical importance.

The knowledge I have acquired of these regions has been gained by a careful study of the writings of our old navigators, and also of more recent reports, and this has been supplemented by the experience I gained during a voyage I made in the summer of 1886, in the *Alert*, through Hudson's Strait to York Factory, on the western shore of Hudson's Bay.

Hudson's Bay, or, as it has not been inaptly termed, the Mediterranean Sea of North America, is a large inland sea, situated between the parallels of 51° and 64° N. lat., therefore well outside the Arctic zone, and between the meridians of 78° and 95° W. long. It is about 900 miles in length from north to south, some 600 miles in breadth, and covering an area of something like 500,000 square miles.

Hudson's Bay is reported to be remarkably free from rocks and shoals, and it has an average depth of about 70 fathoms. So uniform are the soundings that our accomplished associate, Dr. Bell, of the Geological Survey of Canada, in a paper which he communicated to our Society in October 1881 on the commercial importance of Hudson's Bay, had no hesitation in saying, that if, through any convulsion of nature, this vast basin was to be drained of its water, we should find "an immense plateau similar to the prairies of the west."

I would here observe that there are few authorities on this subject, whose opinions should be received with greater respect than those of Dr. Bell, who has devoted many years of his life to the exploration of Hudson's Bay, and whose knowledge and experience regarding the physical geography and geology of that part of the world are so well known.

The same authority states that storms in the bay are very rare, and by no means formidable; that icebergs are never seen, and that fogs, the most dreaded enemy with which a sailor has to contend, are of rare occurrence, and of but short duration.

The climate of the shores of Hudson's Bay during the summer months is mild and genial, and many European vegetables, such as potatoes, lettuce, beet-root, and onions, are grown in the open air. The winters are, however, very severe; and the whole country, covered in a snowy mantle, has then to yield to, and acknowledge the power of, King Frost.

It is asserted that the temperature of the water in Hudson's Bay is no less than 14 degrees higher than the water of Lake Superior, and, in support of this assertion, Lieut. Gordon (who was sent by the Canadian Government in command of the recent expeditions despatched to Hudson's Bay for the purpose of reporting on its feasibility as a com-

mercial ocean route) writes, in his first official despatch that "Hudson's Bay may, therefore, be regarded as a vast basin of comparatively warm water, the effect of which must be to considerably ameliorate the winter climate to the south and east of it."

The principal and, so far as we know at present, the only practicable approach to Hudson's Bay in a ship is through Hudson's Strait—a deep channel about 500 miles in length, which separates Labrador from the islands of Arctic America. The Strait has an average breadth of about 100 miles, but the width in the narrowest part of the channel is not more than 45 miles. The soundings in the Strait vary from 150 to 300 fathoms, and it is wonderfully free from shoals or rocks, or any other obstacles that would tend to make the navigation of a narrow channel more than ordinarily dangerous.

Although Henry Hudson has the reputation of, and is generally accredited to be, the discoverer of the Strait and Bay that bear his name, it is by no means certain that this claim can be substantiated. On the contrary, it is more than probable—and it is a probability amounting almost to a certainty—that the credit of this discovery is really due to earlier navigators.

It is well known that Sebastian Cabot made two voyages across the Atlantic, with the object of discovering a north-west passage to what was then called the South Sea. The first of these voyages was made in the year 1498, and the other in 1516.

During one of them, though it is not known which, it is almost certain that not only the Strait that now bears the name of Hudson was discovered, but also another Strait—that wider and broader expanse of water, which was subsequently named after another of our sea worthies, the brave and skilful navigator, John Davis.

My authority for this assumption is the fact that on Cabot's planisphere of 1544 (which is now in the Paris library), the west coast of Davis's Strait, is fairly accurately delineated as far north as latitude 67° 30′, and an opening, corresponding to the entrance of Hudson's Strait, is also shown as existing between the 61st and 64th parallels of latitude, and in about the 60th meridian of west longitude from Greenwich. This is almost the exact position of the Strait; if, therefore, it was only set down on the planisphere at haphazard, it must be regarded as a very curious coincidence, and a wonderful piece of prophetic geographical inspiration.

I cannot, however, help thinking that its position on the planisphere, is very conclusive evidence that the Strait was actually known to the geographers of the 16th century, a hundred years before Henry Hudson rediscovered it.

The Portuguese also, and with a great deal of justice, may fairly establish a claim, if not to the actual discovery of the Strait, at any rate to a knowledge of its existence, half a century prior to the sailing of Hudson on his last memorable and fatal voyage; for on maps which

are still in existence, and which bear the date of 1558, the Strait, leading to a broad expanse of water to the westward, is clearly shown.

As additional evidence in support of what I am now advancing, I may mention that a fair delineation of the coast line of Hudson's Bay is shown on the map of Ortelius, which was published in 1570, which proves that its existence was then known, though by whom discovered I have not been able to ascertain.

When Martin Frobisher sailed to the north-west in 1576, for the purpose of discovering a short route to India, he sought for a channel that was indicated on the chart with which he was supplied, and which, he thought, would lead him to the South Sea. This inlet, with which his name is now associated, he actually found in latitude 63°, and sailed up it for a distance of about 200 miles, when his further progress was arrested by ice.

In the following year Frobisher entered another strait, between the parallels of 60° and 62°; but as his instructions were somewhat stringent, confining him to the discovery of gold, and did not admit of his prosecuting a search for the north-west passage, however favourable appeared the prospects of success, he did not avail himself of the chance afforded him of exploring what was undoubtedly Hudson's Strait.

That able and accomplished navigator, John Davis, must also have had a knowledge of the existence of the Strait five and twenty years before Hudson entered it; for we are told that during his third voyage for the discovery of a north-west passage, in 1587, after making numerous discoveries to the northward, he steered in a southerly direction, and discovered and named Cape Chidley (or Chudleigh), the headland forming the south point at the eastern entrance to the Strait; and, if I am not much mistaken, he also discovered and landed on Resolution Island, the name subsequently given (but on whose authority I am ignorant—probably Sir Thomas Button's) to the island that forms the north point of the mouth of the Strait. Cape Chidley, I may here mention, was named after Mr. John Chudleigh, of Chudleigh, one of the principal promoters and supporters of the expedition entrusted to the command of John Davis, whose name was often spelt Chidley, and who subsequently died in the Strait of Magellan whilst on a voyage that had for its object the circumnavigation of the globe.

During the same voyage, Davis, on his return from the high latitude which he reached on the west coast of Greenland, was off the entrance to Hudson's Strait on the 1st of August. The circumstance is thus alluded to in his report:—"Which inlet or gulfe this afternoone, and in the night, we passed over: where to our great admiration we saw the sea falling down into the gulfe with a mighty overfal and roring, and with divers circular motions like whirlepooles, in such sort as forcible streames passe throw the arches of bridges."

Again in the year 1602, Captain George Waymouth, who was

employed by the Worshipfull Merchants of London trading into the East Indies, in an attempt to discover a north-west passage to India, in reporting the result of his voyage, states that he entered an inlet in latitude 61° 40′, which he represents as being 40 leagues broad, and up which, he asserts, he sailed a distance of 100 leagues. This inlet, from the position assigned to it by Waymouth, could have been no other than the one that is now known as Hudson's Strait.

I think I have brought forward sufficient evidence, and of a more or less authentic and reliable nature, to show that the Strait was, without doubt, known, although perhaps not explored, prior to the departure from England of the expedition commanded by Henry Hudson, and which sailed in 1610. And I think we may safely infer, that this very knowledge of its existence, was the inducement that led Hudson to attempt further exploration in that direction—feeling assured, as in all probability he did, that the opening in question offered the most likely chance of a successful issue to his undertaking, namely, a navigable passage to the South Sea.

In thus bringing forward the supposed claims of discovery of previous navigators, it is far from my intention to detract from the credit which is undoubtedly due to Henry Hudson. I am only desirous of pointing out that he was, in reality, guided to his discoveries by the beacons established by those who had preceded him; or, in the words of that quaint writer, and enterprising seaman, Captain Luke Fox (who subsequently commanded an expedition into Hudson's Bay), who, in writing of Captain Waymouth, says:—"these two, Davis and he [Waymouth] did, I conceive, light Hudson into his Straights."

As the men I have enumerated were before Hudson in the Strait and Bay that now bear his name, so, also, were others before him in the river named after him, and with the discovery of which he is generally accredited.

As far back as the year 1524, Verazzano, an Italian, was entrusted by Francis I. of France with a small squadron of ships, with directions to reach Cathay by the north-west. Whilst engaged in searching for a passage, Verazzano reached the mouth of what is now called Hudson river, and entered the harbour, on the banks of which is now situated the commercial capital of the United States of America. He was much impressed with its capacity, natural advantages, and the extreme loveliness of the scenery. A sudden and violent squall, however, compelled him to take a hasty departure, and he was thus prevented from making further exploration in that direction.

During the same year, a Portuguese pilot, named Estevan Gomez, was employed by the King of Portugal in endeavouring to discover a short route to the Spice Islands by the north-west, and, whilst so engaged, is reputed to have also sailed into the Hudson river; but the reports of this expedition are so vague and conflicting, that but little credence can be

placed in them. I have, however, considered it desirable to make a brief allusion to them here.

Although the name of Henry Hudson is invariably associated with that of a skilful and adventurous Arctic explorer, and although he is known to fame as a great discoverer of unknown regions, still the whole period of his known life extends only over a little more than four years, viz.: from April 1607 (prior to which he is absolutely unknown to history) until June 1611, when he was treacherously cast adrift on the scene of his explorations, by his mutinous and cowardly crew. Yet in that brief period, although unsuccessful in the achievement of the special work which he had undertaken to accomplish, namely, the discovery of passages to India by the north-east, by the north-west, and even across the North Pole itself, he has left a name which will always occupy a foremost place in that list of naval worthies who have done so much to promote the maritime supremacy of this country, by their heroic courage, their dauntless energy, and their skill and ability as seamen.

I fully endorse the remarks of the talented editor of 'Voyages towards the North-West,' published by the Hakluyt Society, and which, perhaps, I may be pardoned for quoting here. He writes: "Yet Henry Hudson's name is not forgotten. It is borne by his Strait, and by the Bay in which he wintered and died. It is inscribed on the vast territory between the Bay and the Pacific Ocean. It is affectionately remembered by the millions of human beings now living on those banks which he found scantily inhabited by savage races. Nor have his labours been fruitless. He has given to his own country the fisheries of Spitzbergen, and the fur trade of the Hudson's Bay Territories. The Dutch owed to him their North American colony, which has, afterwards, fallen into English hands, and is now peopled and ruled over by the united descendants of both nations.

"Thus, in spite of his failures, Hudson has created himself a far prouder monument than he would have dared to hope for. These successes may well be held out as an encouragement to those who, like him, labour earnestly and steadfastly in some great cause that may seem hopeless. Such labour is never cast away, if only they, like Henry Hudson, prescribe to themselves the rule, To achieve what they have undertaken, or else, to use his own words, 'to give reason wherefore it will not be.'"

It was in consequence of the reputation and experience that Hudson had obtained as a skilful seaman, and an intrepid Arctic navigator, during the three voyages he had made to the northern regions, that he was selected in 1610 for the command of the *Discovery*, which had been fitted out and equipped—chiefly at the expense of Sir Dudley Digges, Sir Thomas Smith, Mr. John Wolstenholme, and a few other gentlemen—for the purpose of attempting the discovery of a north-west passage.

All that was then known of Hudson was that in the year 1607 he

made a bold and daring attempt to reach India by sailing across the North Pole. His vessel, the little *Hopewell*, is described as a cockboat of about 50 tons, and his crew consisted of ten men, besides himself and son, the latter being a mere boy. This expedition was undertaken in the interest of "certain worshippfull merchants of London."

Although unsuccessful in the main object in view, still with such skill and energy did he conduct his little craft, that the latitude he then attained in the neighbourhood of Spitzbergen (viz. 81°), was never exceeded, or in fact ever reached, until Sir Edward Parry passed it more than 200 years afterwards.

In the year following (1608) Hudson was employed by the Muscovy Company, but on this occasion he was engaged in seeking a north-east passage to India and China.

This likewise resulted in failure, but it was during this voyage that a part of Novaya Zemlya was explored.

On his return his services were again called into requisition. This time it was on behalf of the Dutch East India Company, but it was again with a view of discovering the north-east passage. Meeting, however, with an impenetrable barrier of ice, which defied all his efforts to get through, he relinquished the attempt, and sailing across the Atlantic, discovered, and explored, the river that now bears his name, and at the mouth of which the present city of New York is situated.

This is the extent of Hudson's known service, prior to his being selected for the command of the *Discovery*. That he was a man of some note and a seaman of ability is evident, for we hear of him as being in command of a ship belonging to the Muscovy Company, an association whose reputation stood so high, that the very fact of a man being in their employment, and in command of one of their ships, was a sufficient guarantee of his skill and ability as a seaman.

It may not be out of place here to observe that it was the Muscovy Company, at the instigation and under the direction of Sebastian Cabot, that introduced a form to be carefully filled up on board all the ships in their employ, with certain daily observations to be kept under the immediate superintendence of the captain, from which has evolved the log books which every ship is now compelled to use.

The following clause directs the insertion of the observations in this parent of log books. "Item, that the marchants and other skilful marchants in writing shall daily write, describe, and put in memoire the navigation of every day and night, with the points and observations of the lands, tides, elements, altitude of the sunne, course of the moone and starres, and the same so noted by the order of the master and pilot of every ship to be put in writing, the captains generall assembling the masters together once every week (if winde and weather shall serve) to conferre all the observations and notes of the said ships, to the intent it may appear wherein the notes do agree, and wherein they dissent, and upon

good debatement, deliberation, and conclusion, determined to put the same into a common ledger, to remain as record for the company."

The clear, concise, and valuable narratives of the voyages of Davis, Hawkins, Lancaster, Baffin, Hudson, and other navigators, are, in a great measure, due to the adoption of the instructions which were first generally issued by the Muscovy Company.

Not only was Hudson a practical and experienced seaman, but he was also a skilful observer; for in spite of the many disadvantages under which he laboured, and the rudeness of the instruments in use at that time, the position of places laid down by him were ascertained with a fair degree of accuracy. I may also mention that Hudson has the reputation, although I believe it is a disputed one, of being the first Englishman who made observations on the dip, or inclination, of the magnetic needle.

The ship which he had been selected to command was a small vessel, or fly-boat as she is sometimes called, of 55 tons burden, named the *Discovery*, presumably the same that Captain Waymouth had commanded in 1602, when dispatched in quest of a north-west passage.

Her crew consisted of twenty-one men besides himself and son, who invariably appears to have accompanied him on his adventurous voyages. No less than four of the men, including the mate Robert Juet, had previously served under Hudson, two of whom nobly supported their chief when the mutiny broke out, and, electing to share his fate, accompanied him in the boat when she was cast adrift.

The *Discovery* sailed from London on the 17th April, 1610, and, after sighting the coast of Greenland, reached Resolution Island about the 24th of June, and entered the Strait which now bears his name. They were at first much troubled by the amount of ice they encountered, and for some time experienced great difficulty in making their way to the westward. To the land on the south side of the Strait, Hudson gave the name of "Desire provoketh," he being then in latitude 60°.

On the 11th July, fearing the approach of a storm, Hudson anchored under shelter of three small and rocky islands in lat. 62° 9′, to which he gave the name of the "Isles of God's Mercies." These are undoubtedly those islands marked on our present charts as the Middle Savage Islands. I do not know who is responsible for this change of name, a senseless and somewhat confusing one, as we already have on the north side of the Strait, two other clusters of islands named respectively, the Upper and Lower Savage Islands. The original names should, I submit, in justice to their discoverer, be restored; the exact position of these islands is given by Hudson, so that there can be no doubt regarding their identity. On the present Admiralty Chart the name of the "Isles of God's Mercies," has been allotted to a group of Islands which was never seen by Hudson, but which was subsequently sighted by Baffin, and to two headlands of which he gave the names of Fair Ness and

Broken Point. I would suggest that the name of Fair Ness Islands be given to this group. Sir Edward Parry, in the account of his second voyage, was unaware that this particular cluster of islands was the group discovered and named by Hudson the "Isles of God's Mercies," for he alludes to them in the following words:—"The small cluster of islands to which this [Saddle Back Island] belongs, is called in the charts the Middle Savage Islands, a name by which Mr. Davidson (the captain of the Hudson's Bay Company's vessel *Prince of Wales*) did not know them, nor can I find any authority for it, but which may serve to distinguish them as well as any other."

Leaving these islands, Hudson steered to the south-west for some distance, and then to the north-west until he reached the latitude of 61° 24′, when he sighted land (to the southward?), which he named "Hold with Hope," but it is difficult now to assign even an approximate position for this land. In about latitude 62° he again saw land to the southward, to which he gave the name of Magna Britannia, and this name should, I think, be reintroduced on our charts, as appertaining to that large extent of coast situated between Capes Hope and Wolstenholme.

On the 2nd of August Hudson sighted a prominent headland, to which he gave the name of Salisburie's Foreland, being evidently under the impression that it formed part of the north shore of the Strait. It was, however, an island which is now shown on the chart as Salisbury Island.

I cannot help thinking, from the context in Hudson's narrative, that the land thus named was really the south part of Nottingham Island, of which he, otherwise, makes no mention; yet, unless the weather was extremely foggy, which does not appear to have been the case, he must have been in sight of it during his passage to Cape Wolstenholme. The distance between this island and the main land, also lends support to my assumption.

On the 3rd of August, Hudson sailed between the islands now known as the Digges Islands and Cape Wolstenholme, and this is the last recorded incident in his journal.

For an account of the remainder of the voyage we have to trust solely to the narrative written by one of the survivors, a man named Abacuk Prickett, which, although of thrilling interest, contains but little geographical information, and even that little is of a very vague and unreliable nature. The places mentioned by this historian, such as Prince Henrie's Cape or Forland; King James his Cape, and Queen Anne's Cape or Foreland are quite unrecognisable, and therefore impossible to locate.

After passing Cape Wolstenholme, it seems quite certain that Hudson sailed to the southward, and eventually wintered in the neighbourhood of James Bay, but not before he had experienced some trouble with his

men, who, on more than one occasion, evinced a mutinous and insubordinate spirit. In fact, matters had come to such a crisis that Hudson considered it necessary to displace both the mate and the boatswain, and to appoint others to perform their duties. Affairs must have indeed been critical, when it was deemed essential, for the preservation of discipline and the maintenance of good order, to reduce the two officers holding rank next to the captain.

Considering the feeling that existed on board, and the fact that the *Discovery* was but ill supplied with stores and provisions, Hudson did not certainly act on the dictates of wisdom and prudence when he decided upon wintering. We have it on the authority of Abacuk Prickett, that when the *Discovery* left England she was only provided with provisions to last for an estimated absence of six months, although Hessel Gerritz informs us, that she was provisioned for eight months: in either case the supply of provisions was totally inadequate for passing a winter, for five months had already elapsed, since leaving England, when the decision to winter was announced.

I think, under the circumstances, it is not surprising that a spirit of insubordination was exhibited by some of the crew, for it can only be regarded as the act of an insane and infatuated man, to endeavour to eke out two or three months' provisions over a period of nearly twelve months, more especially when the rigours and hardships incidental to what may very fairly be regarded as an Arctic winter, are combined to a poor and insufficient supply of food.

On the 1st of November the ship was secured in winter quarters, and nine days after, she was completely frozen in.

The provisions, or rather what remained of them, were then portioned out in equal shares, and arranged on such a scale as to last during the winter; and a reward was offered to every man who could procure anything in the shape of game.

Shortly after the ship had been established in winter quarters, the gunner, John Williams, died; and, as is customary in such cases, then as now, his effects were sold by auction before the mast. According to Prickett, the bickerings and discussions between Hudson and the majority of his crew, which eventually resulted in open mutiny, were mainly caused by a dispute, between Hudson and some of the men, concerning the purchase of a "gray cloth gowne" belonging to the defunct gunner. From Prickett's showing, Hudson appears to have exhibited such a spirit of obstinacy, and want of tact, that would stamp him as being utterly unfit to be a leader and ruler of men; but then it must be remembered that Prickett may have had interested motives for concealing the truth, and for disparaging his chief. In whatever light, however, Hudson's conduct is viewed, I am afraid he did not show the sagacity of a wise and discreet leader when he resolved to remain out for the winter, knowing, as he must have known, that even with the exercise of the

most careful and rigid economy, his provisions would barely suffice for more than a few months; and if he trusted to the prospect of replenishing his supply by the slaughter of birds and animals in the spring, he was indeed depending on a very precarious chance of subsistence.

Fortune, however, seems to have favoured them in this particular, for we are told that for three months during the winter, they were able to provide themselves with an abundant supply of ptarmigan, no less than one hundred dozen of these birds being shot, or otherwise obtained, during that time; and, subsequently, they succeeded in shooting some swans, geese, and wild duck, although not without some trouble and difficulty. When these birds left, they were reduced to eating moss which they picked off the ground, and also some frogs, which they do not appear to have relished, for Prickett, referring to them, writes that they "were as loathsome as toads." On the breaking up of the ice in the early summer, they succeeded in catching some fish "as big as herrings, and some troutes." These additions to their slender stock of provisions, were as providential as they were unexpected.

At length the long and dreary winter came to an end, the ship was released from the icy bondage in which she had for so many months been imprisoned, and sailed away from her winter quarters in about the second week in June. On the 21st of that month the mutiny broke out, and Hudson with his son, and seven unfortunate companions (the majority of whom consisted of the sick and helpless) were put into a small boat and mercilessly cast adrift.

Thus perished Henry Hudson on the scene of the most important of his discoveries. No prouder tablet, or more imperishable epitaph, could better immortalise the name of a great man than he has, for his name is associated with that great inland sea that has in all probability a prosperous and, we will hope, a great future before it; a river that is already known to fame for its lovely scenery and commercial importance; and a vast extent of territory that only requires population and capital, to develop its mineral wealth and boundless resources.

Nothing more was ever seen, or heard, of Hudson and his companions, and so his actual fate will always remain wrapped in mystery.

A month after the heartless abandonment of the captain, the *Discovery* with the mutineers reached the neighbourhood of Digges Islands, with the object of replenishing their supply of provisions, by obtaining some looms (Guillemots) which they knew to abound there. Shortly after her arrival some of the men, whilst on shore, were attacked by the Eskimos, who killed four of their number. By a curious coincidence, or by what perhaps may be regarded as a judicial act of Providence, these four men happened to be the principal ringleaders in the mutiny, and thus was the outrage on Hudson avenged by a prompt and retributive justice. Of the remaining seven that formed the crew of the *Discovery*, one died of starvation during the passage across the Atlantic, whilst the other

six succeeded in reaching the coast of Ireland, alive it is true, but in a most woe-begone and emaciated condition, having subsisted for many days on sea-weed fried with candle-ends, and the skins of the birds that had previously been shot and eaten. To such an extremity of weakness had these men been reduced by the sufferings they had experienced, that only one man was capable of steering the ship. A new crew having been engaged in Ireland, the vessel was taken to Plymouth, and thence to Gravesend.

There does not appear to have been any inquiry made on the return of the ship to England, regarding the circumstances connected with the atrocious abandonment of Hudson. Perhaps the pitiful condition of the survivors, and the intense miseries they had experienced, were considered as sufficient atonement for their insubordinate and unjustifiable conduct; at any rate, we are told that two of the survivors, viz. Bylot the mate, and Abacuk Prickett the historian of the voyage, were actually employed in the expedition that sailed the following year to Hudson's Bay, under the command of Sir Thomas Button.

This expedition was despatched by the Company of Merchant Adventurers, with the sanction and under the immediate directions of the Prince of Wales, who drew up the instructions to be observed.

The following are extracts from the "Charter granted to the Company of the Merchants Discoverers of the North-west Passage. Alfred Bletsoe, July 26th, 1612."

"A. Beginning.

James, by the grace of God King of England, &c. Whereas we are credibly informed that our Cozens and Councellors Henry Charles Earl of Northampton, Keeper of the Privy Seale; Charles Earl of Nottingham, Admirall of England; Thomas Earl of Suffolk, Chamberlain of our oun household; our right trusty and well beloved Cozen Henry Earl of Southampton; William Earl of Salisbury, our right trusty and well beloved Theophilus Lord Walden, Sir Thomas Smith Maunsell, Sir Walter Hope, Sir Dudley Diggs, Sir James Lancerote, Knights; Rebecca, Lady Romney, Francis Jones one of the Aldermen of our City of London; John Wolstenholme, Esq., John Edred Robert Sandy, William Greenwell, Nicholas Seats, Hovet Stapers, William Russell, John Merricks, Abraham Chamberlaine, Philippe Burlomathis, merchants of the Cittie of London, the Muscovy Company and the East India Company of the sixth voyage did in Aprill one thousand six hundred and tene, with great charge sett forth a shippe called the *Discoverye*, and certaine persons under the command of Henry Hudson, to search and find out a passage by the north-west of America to the Sea of Sur, commonly called the South Sea, and have in that voyage found a streight or narrow sea by the which they hope and purpose to advance

a trade to the great kingdoms of Tartaria, China, Japan, Solomons Islands, Chili, the Phillippines, and other countreys in or upon the said sea. . . ."

At the bottom of this charter appears

"B. Summary of the grant.

"This bill conteyneth your Majesty's grant unto the merchants of London, discoverers of the north-west passage, to be made and treated a corporate body, and to be invested with powers and capacities thereunto incident, so that the trade through that passage may be managed with some order and government, and not loosely at the discretion of every private adventurer. The frame and constitutions of this company is not restrained to any number certain, nor confined to any particular citty, town or place, nor tending to any degree of monopoly. The Prince is the supreme protector, under your Majesty, of this Company. The custom subsidy, and impost accruing to your Majesty of all goods and merchandize shipped outwards and homewards through the said passage, in the 7th year after the date of the present patent (by which time it is conceived the trade may settle and groue somewhat beneficiall) are therein graunted to the first discoverers, in consideration of their charges in the discovery; and the like graunt to Captain Button, and the masters and marines in the two shippes lately sett forth for the perfecting of the said discoverye, of the customs subsidy and impost happening in the 5th year after the date of the present patent (which as supposed will be a lesse matter) in consideration of their services therein."

The main object of the expedition that was sent forth under the command of Sir Thomas Button was, undoubtedly, the discovery of the North-west Passage, but let us hope, in the name of humanity, that the expedition was also undertaken with a view of searching for Hudson and those who shared his fate, although no mention of it is made in the brief account that has been handed down to us of this voyage.

The expedition consisted of two ships, the *Resolution* and the *Discovery*.

The leader, Sir Thomas Button, was a gentleman in the service of Prince Henry, and, we are informed, was an able and skilful seaman, and a man of considerable talent. Most elaborate instructions for his guidance were drawn up under the superintendence of His Royal Highness. The ships were provisioned for eighteen months, and sailed from England early in May 1612. On arrival in Hudson's Strait, they proceeded with all despatch, and without much hindrance from ice, to Digges Island, where they remained for eight days, and, we will hope, that during that period a diligent search was instituted for the unfortunate castaways, but no mention of such a search is recorded in the narrative of the expedition, although Bylot and Prickett were both

serving in one of the ships. Natives were, however, seen and communicated with, and it is sad to relate that, instead of ingratiating themselves with these people, our countrymen came into serious collision with them, and in attempting to seize some of their boats, five of Button's men were slain by the Eskimos.

So hostile were the natives in this neighbourhood reputed to be (although in all probability their hostility was the result of the high-handed behaviour of the men of the expedition), that I fear it only too plainly shows what the fate of Hudson and his companions would have been had they fallen into their clutches.

From Digges Islands they proceeded to the westward, where the land was discovered to which the name of "Cary's Swan's Nest" was given, but which is now known as Southampton Island. Thence they continued their course to the westward, until land was again fallen in with in lat. 60° 40′, which was called "Hopes Check'd," because they were disappointed in not finding the passage they were in search of. This land is, I think, that headland marked on our present charts as Cape Esquimaux. It is much to be regretted that the only account obtainable of the voyage of Sir Thomas Button, should be so meagre and so wrapped in needless mystery.

After sighting Hopes Check'd, the ships steered to the southward, when, being assailed by a violent storm, they anchored for shelter and to repair damages off the mouth of a river, which was called Nelson river, after the master of the *Resolution*, who died and was buried there. The mainland received the name of New Wales, after the Prince of Wales, and the bay into which the river emptied itself was called Button's Bay. Sir Thomas Button may, I think, fairly claim the honour of being the first navigator to sail across Hudson's Bay.

Although it was only the middle of August when the Nelson river was reached, it was decided that the winter should be passed there, and the necessary preparations were made for doing so. Apparently there was abundance of game obtainable, for we are told that, among other things, 1800 dozen white partridges (ptarmigan) were killed in the neighbourhood of their winter quarters. During the month of February, and subsequently, the cold was intensely severe; many of the men died from the effects of it, whilst the survivors were reduced to a very weak and sickly condition.

In April the ice commenced to break up, but it was not until June that the ships made a move. They then steered to the northward, and discovered land in lat. 60°, which was called Hubbart's Hope, after the pilot of the *Resolution*, because a strong tide race that was observed was hoped to be indicative of the passage for which they sought. In July they were off Hope's Advance, seen and named the previous year, and on the 26th of the same month, Ne Ultra, in lat. 62° 42′, was named. Three days afterwards, they reached their highest latitude, which is

reputed to be lat. 65°. Sailing then to the eastward, Mansel's Island was discovered, and named—not Mansfield Island, as in our present charts—and the west extreme of Southampton Island was named Cape Southampton, whilst the east end was called Cape Pembroke.

I am not quite sure as to whether Mansel Island was named after Sir Thomas Smith Maunsell, one of the Company of Merchant Discoverers for the North-west Passage, and referred to in the charter granted by James I., or whether it was named after Sir Robert Mansils.

No difficulty from ice was experienced in sailing through the Strait on their way to England, but instead of emerging from what may well be considered as the main entrance to the Strait, namely, between Resolution Island and Cape Chidley, the ships were taken through a strait which was then, for the first time, found to exist between the island, of which Cape Chidley forms the northern extreme, and the main coast of Labrador. This channel has lately been named M'Lellan Strait, after the Canadian Minister of Marine and Fisheries, under the impression that it was a new discovery.

The insularity of the land, on which is situated Cape Chidley, having without doubt been determined by Sir Thomas Button, it would, I think, only be appropriate, and a graceful act of recognition of the many services performed in these waters by a ship bearing the name of *Discovery*, to name the island Discovery Island. We should then have the entrance to Hudson's Strait marked, on its north and south sides, by the names of vessels that have done good service in the Arctic Regions and elsewhere, and the names of the two first ships, the *Discovery* and *Resolution*, that ever passed a winter in Hudson's Bay, would thus be commemorated.

The fact of Sir Thomas Button's ships having sailed through the strait referred to, is thus, on the authority of Abacuk Prickett, alluded to by Captain Luke Fox:—"They came not through the maine channell of Fretum Hudson, nor thorow Lumley's Inlet; but through into the Mare Hyperborum betwixt those ilands first discovered and named Chidley's Cape by Captain Davis, and the north part of America, called by the Spaniards, who never saw the same, Cape Labrador, but it is meet by the north-east point of America, where was contention among them, some maintaining (against others) that them ilands were the Resolution, which Josias Hubbart withstood, untill he stood himselfe into the danger of displeasure; but at length it proved a new Streight, and a very streight indeed to come through which resolved all doubts."

Sir Thomas Button's expedition was undoubtedly a failure; no discoveries of any importance were made; no light was thrown on the existence of a north-west passage in the locality in which he was supposed to be exploring, and he failed to succour Hudson, or to ascertain any particulars regarding his fate and that of his unfortunate companions.

That he felt keenly his want of success is certain, and that he did not regard the discovery of a passage as impossible is also assured, on the

authority of a fragment of his journal, which was communicated to Captain Luke Fox by Sir Thomas Rowe. In it Button writes:—"That God that made us all of dust, will not fail to raise up some good spirits for the future prosecution of this businesse: as that by their honest endeavours, and religious resolutions, they will effect that which is not ripe for his sickle. God which best knows what the truth of his endeavours have been in this action, will not faile to give a blessing to some that followe; and for his part he desires to be blest no otherwise than as he hath sincerely laboured; and therefore he must conclude and even believe according to the word, that *Paul* plants, *Apollo* waters, and *God* gives the increase. So that until his good will and pleasure is, all that we doe cannot in this aught else prevaile."

His predictions, however, have never yet been realised, at least in the sense that he anticipated, for no practical north-west passage has been discovered, so we may infer that it is not yet "ripe for the sickle."

The next expedition to Hudson Strait sailed in 1614, and was entrusted to the command of a Captain Gibbons, who had served as a volunteer in Button's voyage. The records of this expedition are exceedingly brief, and may be summed up and dismissed in the following somewhat laconic and quaint account of it given by Luke Fox. He says:—"Little is to be writ to any purpose, for that hee was put by the mouth of Fretum Hudson, and with the ice, driven into a bay called by his company 'Gibbons his Hole,' in latitude about 57°, upon the north-east point of Stinenia, where he laid twenty weekes fast amongst the ice, in danger to have been spoyled, or never to have got away, so as the time being lost, hee was enforced to returne."

The bay in which Gibbons passed so many idle and fruitless weeks, is supposed to be somewhere in the neighbourhood of Nain, on the coast of Labrador, where there is now a Moravian mission establishment.

In no way discouraged by previous want of success, the enterprising company of merchant adventurers again, the following year, despatched the little *Discovery* with the object of renewing the search for a North-west Passage. Robert Bylot, who had served in the three preceding voyages, namely, those under Hudson, Button, and Gibbons, was placed in command, but William Baffin, an experienced and accomplished navigator and a skilful and scientific observer, was appointed as pilot and mate, and, I think, shared with Bylot the responsibility of command. It is at any rate, to Baffin that we are indebted for an account of the voyage.

The *Discovery* left England on the 16th of April, 1615, with a crew consisting of fourteen men and two boys. On the 27th of May Resolution Island was sighted, and the Strait entered shortly after. On the 8th of June the Savage Islands were reached and named, and it was observed that they had "a great sound or indraught between the north shoare and them." I make particular allusion to this because a claim has recently

been made of the discovery of this strait. Baffin's claim, however, dates back 270 years, and is undeniable. The strait I allude to is also referred to as being well known by a Captain Coats, who was for many years employed by the Hudson's Bay Company in command of one of their ships. In a MS. entitled "The Geography of Hudson's Bay," written by him in 1750, he calls this channel the "White Streights."

On the 19th of June the *Discovery* reached Broken Point, and an adjacent headland was named, by Baffin, Fair Ness. The neighbourhood of these two capes, or points, is memorable as being the place where the first lunar observation for finding the longitude was taken by the untiring Baffin.

This incident is thus referred to by Sir Edward Parry:—"On the 29th we were off a point of land having several islands near it, and exactly answering the description of that called by Baffin, in the year 1615, Broken Point, it being indeed a point of broken island. This headland is memorable on account of a lunar observation made off it by this able and indefatigable navigator, giving the long. 74° 05', which is not a degree to the westward of the truth."

Alluding to the fact of his having succeeded in taking a lunar observation at this place, Baffin makes the following very pertinent remark:—"If observations of this kinde, or some other, were made at places far remote, as at the Cape Bona Esperanza, Bantam, Japan, Nova Albion, and Magellan Strayts, I suppose wee should have a truer geography than we have." Unfortunately, however, those days did not produce many such skilful and practical seamen and such scientific observers as Baffin undoubtedly was. His practical knowledge enabled him, during the passsge of the *Discovery* through Hudson's Strait, to produce a most interesting chart on which the coast line and prominent points and islands are very accurately delineated, in fact, some of the positions on Baffin's map are even more correctly placed than on the present Admiralty Chart. A facsimile of his chart is reproduced in Mr. Clements Markham's "Life of William Baffin," published for the Hakluyt Society.

Although the *Discovery* was somewhat delayed during the passage through the strait by loose ice, they found that by adhering to the north side of the channel, the difficulties were materially lessened, and such good progress did they make, that by the 1st of July they succeeded in reaching the neighbourhood of Salisbury Island. On that day the Milk Islands were discovered and named by Baffin "by reason of the greate extremetye and grindinge of the ice, as this night we had proofe thereof." The position of the main island of this cluster was ascertained to be in latitude 64°. During the month of June the winds were variable, but the weather was extremely fine; a steady set to the westward was experienced, for Baffin reports that the ship was set more into the strait during one flood, than two ebb tides would set them out

This entirely accords with the experience of the majority of those who have subsequently navigated the strait.

In the vicinity of the Mill Islands, however, Baffin reports the flood tide as coming from the *south-east*, but this, I cannot help thinking, is an error, and *north-east* is really meant. He must, I think, have been sorely perplexed by the eddyings and tide-rips which are well known to exist near this cluster of islands, and was, therefore, in all probability, unable to determine with his usual accuracy, the exact direction of the flood tide. He thus writes of these eddies: "The ilande or iles lying in the middle of the channell, havinge many sounds runninge through them, with dyvers points and headlands, encountering the force of the tyde, caused such a rebounde of water and ice that unto them that saw it not is almost incredible. But our ship being thus in the pertition, betweene the eddy which runne one way, and the streame which runne another, endured so great extremytie, that unless the Lord himselfe had beene on our side we had shurely perished; for sometymes the ship was hoysed aloft; and at other tymes shee havinge, as it were, got the upper hand, would force greate mighty peeces of ice to sinke doune on the one side of her, and rise on the other. But God which is still stronger than either rocks, ice, eddy or streame, preserved us and our shippe from any harme at all. And I trust will still contynue his love to us, that we may performe some more acceptable servis to his glory, and to the good of our common welth."

From the Mill Islands, Baffin sailed up, what is now known as, Fox Channel. On his way he landed on a point of land on the west side, which he named Cape Comfort, in consequence of the discovery that the tide flowed from the northward, which, to use his own words "put us in great hope of a passage this waye." According to his observations this cape was situated in 65° N. lat. and 85° 20′ W. long., but Sir Edward Parry in 1821 determined the position of this headland as 64° 54′ N. lat. and 82° 57′ W. long.

On the following day Baffin's joyful anticipations of discovering a passage, received a severe and sudden check, for they found the land trending away to the north-east by east; the water also shoaled considerably; they were much hampered by ice, and there was but little tide. All these indications were unfavourable to the supposition that they were in the eagerly sought-for passage, and only too surely proved that they were in a large bay. Under these unpropitious circumstances, the hopes of finding a passage in the direction they were seeking were abandoned, and the ship's head was turned to the southward. On their way south, Seahorse Point was sighted and named by Baffin, from "the Store of Morses" which he there saw.

But little, after this, was done in the way of exploration, and on the 30th of July the *Discovery* commenced her homeward voyage. In four days' time she reached Resolution Island, thus showing that at that

particular time of the year there was but little, if any, ice in the Strait to impede her progress.

During the voyage, the account of which I have just related, the indefatigable Baffin took no less than twenty-seven observations for ascertaining the variation of the compass, besides the daily observations for determining the position of the ship and various points of land.

The great mistake that Baffin, and indeed all the old Arctic navigators made, was relinquishing exploration so early in the navigable season, but it must be remembered they were then unaware of what we now well know, namely, that the best months for exploring in high latitudes, when there is a minimum amount of ice, are August and September, and even in October, in spite of the short days and long nights that are experienced in the last-named month. They thought, and it is very natural they should think so, that the navigable season commenced to wane when the sun reached its greatest northern declination, and, warned by the increasing shortness of the days, and the corresponding increase of the nights, they invariably sought winter quarters or made preparations for their homeward voyage, at the very time they should have been diligently engaged in exploratory work.

In 1619 Captain Hawkridge, who had acquired a reputation as a seaman and a navigator whilst serving under Sir Thomas Button, was entrusted with the command of a ship, and despatched in search of a north-west passage viâ Hudson's Strait. This voyage, however, appears to have been barren of important results. It seems that the expedition sailed up the Strait, with but little hindrance from ice, as far as Charles Island, and then cruised about for some time off some coast, but where is not clearly shown. There is only a very meagre account of this expedition in existence, written by Captain Luke Fox, from information obtained at the time "by manuscript or relation."

During the same year (1619) the Danes, their attention having in all probability been directed to the recent discoveries of Hudson, Baffin, and other English navigators, also despatched an expedition, but whether the object of it was the discovery of a north-west passage, or whether it was sent out for the purpose of searching for the lost Danish colonies in Greenland has never very clearly been ascertained. The command of it was entrusted to Captain Jens Munk, and the two ships that composed it were, we are told, manned chiefly by English sailors, men who had, very likely, been engaged in the whale-fishery, or who had perhaps served in some of the many voyages of exploration that were undertaken in the early part of the century to the north-east, as well as to the north-west.

The ships sailed from Denmark on the 18th May, and sighted Cape Farewell (the south point of Greenland) on the 20th of June.

They then attempted to sail up Davis Strait, but meeting with much ice, Captain Munk steered to the westward, proceeded up Hudson's

Strait, and thence into Hudson's Bay. He gave new names to places that had already been discovered and named by previous navigators, but these Danish names have long ceased to exist on the charts. At length they reached the west side of Hudson's Bay, and here Munk decided upon wintering in a bay which he called Munk's Winter Harbour, and which is supposed to be one of the many bays or harbours in the neighbourhood of Chesterfield Inlet. They appear to have been wretchedly provided and equipped in every respect; long before the winter was over their provisions were expended, although they had been exceptionally fortunate in shooting several bears, besides foxes, hares, ptarmigan, and other birds before the winter set in. Scurvy also attacked them with such virulence that many died, and the survivors were so emaciated and reduced by disease as to be absolutely helpless. Famine now stared them in the face, for their provisions were all expended, and they had no strength left to organise hunting parties for their relief, although with the return of spring, animals and birds appeared in great numbers.

Captain Munk, who occupied a small hut by himself, was reduced to a similar condition, and lay weak and helpless, daily expecting, and hoping, that death would soon terminate his sufferings. At last, overcome by the cravings of hunger, he managed to crawl out, when, to his horror, he found that all his companions, the crews of both ships, save two men, had perished from the combined effects of disease and starvation. The three miserable survivors, summoning up a little courage and energy, scratched away the snow from the ground on which they lay, and finding some plants and roots, devoured them eagerly. In course of time they succeeded in catching some fish in the river, which so revived and strengthened them that they were soon after able to shoot some birds and other animals.

Eventually, equipping the smaller vessel of the two from the stores of both, and laying in a stock of provisions sufficient to take them across the Atlantic, these three men embarked and started on their homeward voyage. Passing through Hudson's Strait with little or no difficulty, after an adventurous passage, they arrived safely at a Norwegian port on the 25th September, 1620, and were subsequently received in Denmark, as they well might be, as men risen from the grave. I will not vouch for the authenticity of this story; its genuineness has been frequently questioned; I simply give it here for what it is worth. If true, this expedition was, I believe, the first, and last, Danish one that ever ventured into Hudson's Bay.

After the failure of the expeditions of Button and Baffin, the excitement regarding the discovery of a North-west Passage appears to have, for a time, subsided, nor does the subject seem to have been revived again until the year 1631, when Captain Luke Fox, who, somewhat conceitedly, called himself "North-West Fox," by dint of much perseverance, succeeded in so far interesting a few London merchants, that,

backed up as they were by the powerful support of Sir Thomas Roe, Sir John Wolstenholme, Sir John Brooke, and Mr. Henry Briggs (the famous mathematician) they determined upon the despatch of another expedition.

Not only did Captain Fox persuade these gentlemen to assist him in the venture, but he also induced the two last named to present a petition to Charles I., supplicating the loan of one of His Majesty's ships, and "for his countenance of the voyage," and we are pleased to find that His Majesty "graciously accepted and granted both."

A ship named the *Charles*, of 80 tons burden, was selected. Her crew consisted of twenty men and two boys, and she was provisioned for an anticipated absence of eighteen months. As Captain Fox informs us, in his quaintly written account of the expedition, "I was victualled compleatly for eighteen months; but whether the baker, brewer, butcher, and others were masters of their arts or professions or no, I know not; but this I am sure of, I had excellent fat beefe, strong beere, good wheaten bread, good Iceland ling, butter and cheese of the best, admirable sack and aqua-vitæ, pease, oatmeale, wheatmeale, oyle, spice, suger, fruit and rice, with chyrurgerie, as sirrups, juleps, condits, trichissis, antidotes, balsoms, gummes, unguents, implaisters, oyles, potions, suppositors, and purging pils, &c." In fact, he seems to have been excellently well supplied with every requisite.

Fox sailed from Deptford on the 3rd of May, 1631, and arrived off Cape Chidley on the 20th June. He at once pushed on through the Strait, and with apparently such haste and energy as to provoke a protest from his officers, who were induced to ask him his reasons for hastening on so fast, and why he did not give them more rest. The reply was characteristic of the man: he said, "that it fared with him as with the mackerell men of London, who must hasten to market before the fish stinke."

His description of the ice that he encountered in the Strait is so good, and so exactly coincides with my own experience of the ice in the same locality, that I make no apology for introducing it here.

He writes that the ice in the Strait consists of two kinds, one of which is "as mountainous ice, which is a huge piece, compact, of a great quantity, some of more, somme of lesse; but in this freet you seldome have any bigger than a great church, and the most thereof lesse;" this, of course, has reference to the icebergs met at the entrance, and in the eastern part, of Hudson's Strait. He then describes, as follows, the floe, or pack, ice that he saw. "The other is smaller, and that we call masht or fleacht ice. Of this you shall there have numbers infinite, some of the quantity of a rood, some a pearch, ½ an acre, some 2 acres; but the most is small and about a foot or 2, or more above the water, and 8 or 10 or more under the water, and those are they which doe inclose you; so as in much wind, from the topmast head you shall hardly see any water for them, but while you lie amongst them, it is so smooth as you shall not feele the ship stirre."

It would not be possible to give a more accurate description of the conditions of the ice in Hudson's Strait at the present day than this account furnished by Captain Fox more than 250 years ago. It exactly describes the peculiar nature of the ice that is usually met with during the navigable season in this channel, and which I have not observed in any other part of the northern regions.

Captain Luke Fox was evidently a man of humour, as the following anecdote will show. Having to reprove one of his officers publicly for showing discontent at being called up earlier than usual one morning to get the ship under weigh, he says, "I told the rest that the matter was not great, for the children did so when they were awaked out of their sleep." He goes on to say that "this fayre dayes west wind blew cold and uncouth from out the passage [meaning probably the north-west passage that he hoped to discover]. Wee are all upon kind tearmes, drinking one to another. God hold it. This morning (July 3) the sunne lickt up the fogges dew, as soone as hee began to rise, and made a shining day of it; I cannot say hot, it being counter-chect by a coole top-sayle gale from west north west, which made our noses runne."

Fox, apparently, experienced but little opposition from the ice during his passage through the Strait, for in about three weeks after entering it he was in the vicinity, or had already passed, Cape Digges, Nottingham, and Mansel Islands. On the 21st July he was off Cary's Swan's Nest, thence sailing along the north-west coast of Hudson's Bay, he discovered an island which he named Sir Thomas Rowe's Welcome.

This name was subsequently applied, not only to the island originally so called, but also to the strait, or channel, in which it is situated, and which is now invariably alluded to as "The Welcome."*

From the Welcome, in accordance with his written instructions, Fox sailed to the south-west, in order to search for the passage which was supposed to exist south of the 63rd parallel. On his way he discovered an island, which he called Brooke Cobham, and a small group of islands adjacent which he named "Brigges his Mathematickes," after the two gentlemen who were mainly instrumental in presenting the petition to Charles I.

On the 2nd of August he was off an island which he assumed to be the Hopes Check'd of Sir Thomas Button, and on the 10th he entered the Nelson river, where he anchored in a snug berth that afforded the necessary facilities for refitting his ship, and for constructing a small pinnace that had been brought out in pieces from England.

Here he found, and restored, a cross that had been put up in 1612 by Button, as a symbol of his having taken possession of the land.

After leaving the Nelson river, Fox sailed along the coast to the southward, meeting on the 30th August the *Maria*, which ship had that

* This island was, in all probability, that to which the name of Ne Ultra was given by Sir Thomas Button.

year been despatched by the merchants of Bristol, under the command of Captain James, also for the purpose of discovering a north-west passage. This was the first meeting of the two ships, although they had been very close to each other on several occasions in the Strait, and also off Resolution Island, without, however, being aware of it. They remained in company for a day, exchanging visits, &c., when they separated, Fox continuing his course to the southward. In latitude 55° 14′ he was in sight of land, which he named "Wolstenholme's Ultima Vale," and then, having made up his mind that no prospect offered of discovering a passage between latitude 65° 30′ and 55° 10′, he steered to the north-east. This was on the 3rd of September, when the days were already becoming perceptibly shorter, and the navigable season drawing to a close.

On the following day he discovered an island in latitude 57° 55′ which he named "The Sleepe." On the 7th he saw the "Cary's Swan's Nest" of Button, and the next day he sighted Cape Pembroke in latitude 62° 23′.

Thence shaping a course to the north-east, he discovered and named two points of land, respectively, Cape Linsey and Point Peregrine. On the 14th he was off Seahorse Point, and saw the Mill Islands the following day; he appears to have taken the ship through some channel or strait, to the westward of these islands, to which he gave the name of "Hurin's Through-let."

In this neighbourhood he remained for three days, when he continued his course northwards, naming two prominent headlands "King Charles his promontory" and "Cape Maria," the former in latitude, by estimation, 64° 46′, and the latter in 65° 13′.

Three islands to the northward of King Charles Promontory were called the Trinitie Islands, and a fourth was named Isle Cooke.

On the 20th September, a headland was passed in latitude 65° 50′, to which Fox gave the name of Lord Weston's Portland, and on the 22nd he reached a point, which he places in latitude 66° 47′, where, he says, the land trended south-east, and to which he gave the name of "Fox his farthest."

Here Fox having, from observations taken, arrived at the conclusion (subsequently ascertained to be an erroneous one) that the flood tide came from the south-east, and that there was, in consequence, no hope of a passage in that direction, and as several of his men were attacked by scurvy, resolved to discontinue further research and to sail for England. He, like his predecessors, imagined that the navigable season in high latitudes terminated in August, although his own experience ought to have convinced him that such a reasoning was fallacious, for it was not until late in September that he decided to return, up to which time his progress had been but little impeded by ice; indeed the word ice, as an obstacle to navigation, does not even appear in his narrative during the entire month of September. He was, however, evidently appre-

hensive of being caught by the winter, and although he does not mention seeing ice in large quantities, he writes, as his reason for relinquishing further exploration, that "the weather had beene for about 3 weekes before, nothing but snowe, frost and sleet at best, ourselves, ropes and sayles froaze, the sun seldome to be seene, or once in five dayes, the nights 13 houres long, the moone wayning. And in conclusion, I was enforced either to seeke for harbour, or freeze to death in the sea." This was rather an exaggerated view to take of his position, although it is one that we cannot blame him for accepting, but we now know that the months of September and October, in spite of the indisputable fact that the days are getting shorter and the temperature decreasing, are the best months for navigating the Strait, as it is then practically clear of ice.

In connection with the decision arrived at by Fox with regard to the tides, Sir Edward Parry, an unquestionable authority, writes:—"There can be little doubt that this irregularity is principally occasioned by a meeting of the tides hereabouts, for there is tolerable evidence of the flood coming from the northward down the great opening leading to Fox's Farthest, and which I have called Fox's Channel. This tide meeting the rapid stream which sets from the eastward, through Hudson's Strait, must of necessity produce such a disturbance as has here been noticed."

Further on, Sir Edward writes:—"Baffin particularly insists on this being the case (viz. the northerly set of the tide down Fox's Channel) both near Trinity Islands and off Southampton Island, and I think, notwithstanding a contrary opinion held by Fox and Gourin, our observations of the tides in this neighbourhood, and subsequently at Winter Island seem to confirm those of Baffin."

There is yet much to be learnt regarding the direction and force of the tides, in the regions that are situated immediately to the northward of Hudson's Bay, and also in Hudson's Strait itself. Later experience, however, goes very largely to prove that Sir Edward Parry's deductions, based on observations made during a sojourn in the neighbourhood of three summers and two winters, were correct, and that Fox's conclusions were erroneous.

Although Fox had abandoned all hopes of discovering the North-west Passage, he continued his explorations during the return journey, and did not fail to name several promontories, headlands, islands, &c., in his quaint fashion.

Standing to the south-east on the 22nd September, he discovered a headland and named it Cape Dorchester. Passing Baffin's "Prince Charles's Foreland," he observed a "faire sound," to which he gave the name of "The Prince his cradle," whilst an island situated to the westward was called "The Prince his nurse."

A headland, E.S.E. ten leagues from Prince Charles's Foreland, he

named Cape Dorset, whilst another cape three leagues further to the eastward he called Cape Cooke. Between these two last-named capes, in a deep bay, he named an island Isle Nicholas.

Capes Linsey, Portland, Dorset, and Dorchester were named after the Lords Commissioners of the Admiralty,* Nicholas Island was called after the Secretary of the Admiralty, whilst two islands in the vicinity of Queen's Cape, were named respectively Sackfield and Crowe, after Sir Sackfield Crowe, late Treasurer of the Navy.

On the 27th September, only five days after reaching his furthest position, so little were his movements hampered by ice, he passed through the Strait and was off Resolution Island, and on the 31st October, the *Charles* reached England.

Captain Fox concludes his narrative in the following words:—"The 31, blessed be Almighty God, I came into the Downes, with all my men recovered and sound, not having lost one man nor boy, nor any manner of tackling, having beene forth near six months. All glory be to God."

Captain Fox's voyage, in spite of the sneers and sarcasms that have been levelled at it by modern writers, added greatly to the scant geographical knowledge that was then possessed of Hudson's Bay, Strait and adjacent waters, and whatever may be said of his conceit and quaintness, there is but little doubt that he was a skilful sailor, a keen observer, and an energetic and enterprising explorer.

I have given the narrative of this voyage, together with those of Hudson and Baffin, in some detail, because I regard these men as being essentially the pioneers of geographical discovery in Hudson's Bay, for they did more towards the exploration of that region, than has subsequently been performed by later navigators. I shall not allude at such length to the doings of their successors.

The merchants of Bristol, not to be behind those of London in their praiseworthy endeavours to accumulate wealth by geographical discovery, also despatched a ship named the *Maria* of 70 tons, for the purpose of searching for the North-west Passage through Hudson's Strait. She was commanded by Captain James, and sailed out of the Severn on the same day that Captain Fox left the Thames in the *Charles*, namely the 3rd of May, 1631.

Of the antecedents of Captain James, little or nothing is known, prior to his being selected by the Bristol merchants to command this expedition. He does not, however, appear to have been a man fitted for the conduct of such an enterprise, being, from all accounts, devoid of skill, energy, and judgment. After being nearly destroyed by the ice off Cape Farewell on the 6th of June, the *Maria* reached Resolution Island on the 24th, but in consequence of striking on a rock, and being much hampered

* In 1628 the office of Lord High Admiral had been placed in commission, for the first time in our history.

by ice, it was not until the middle of July that the vicinity of the Digges Islands was reached.

The account of getting the ship off the rock is thus described: "We made fast cables and hawsers aloft to the masts, and so to the rocks, straining them taut with our tackles; but as the water ebbed away, the ship was turned over, that we could not stand in her. Having now done to the best of our understandings, but to little purpose, we went all upon a piece of ice, and fell to prayer, beseeching God to be merciful unto us." The following general advice to those navigating Hudson's Strait is gratuitously given by Captain James, by which his capacity as an explorer may fairly accurately be gauged: "I advise no one to come near those dangerous shores, for fear he lose his ship." Comment on such advice is unnecessary.

On the 16th of August they were off Port Nelson, whence steering a south-easterly course they sighted a cape on the 2nd of September in latitude 55° 5′, which was named Cape Henrietta Maria.

Prior to this, on the 30th, as already related, they sighted and communicated with the *Charles*, under Captain Luke Fox, with whom they remained in company for seventeen hours.

On the 12th of September they again contrived to run the ship on shore off the coast of America, in latitude 52° 30′. Eventually, after numerous perils, the result of ignorance and inexperience, they reached an island, subsequently named Charlton Island, in latitude 52°, where they decided upon wintering.

The hardships and privations that were endured by these unfortunate people were most appalling. Nothing seems to have gone right, and a most dismal account is given of the manner in which the winter was passed. Indeed the whole narrative is replete with complainings of the sufferings they were subjected to.

As it was impossible, from the position and leaky condition of the ship, to live on board, a house was constructed with much labour and difficulty on shore, in which they passed the winter, but even here their troubles ceased not, and on one occasion, through negligence or carelessness, their house was nearly destroyed by fire.

A curious story is related of the gunner of the ship, who was so seriously injured on the 21st of August as to necessitate the amputation of one of his legs. The poor man lingered until the 22nd of November, when he died, and was committed to the deep at some distance from the ship. On the 18th of May, six months after the committal of the body to the sea, the master who, it is related, "was looking about him, discovered some part of our gunner under the gun-room ports. The 19th, in the morning, I sent men to dig him out. He was fast in the ice, his head downwards and his heel upwards, for he had but one leg; and the plaister was yet at the wound. In the afternoon they had digged him clear out, and he was as free from noisomness as when we first committed him to the sea. This alteration had the ice, and water, and time only

wrought on him, that his flesh would slip up and down upon his bones like a glove on a man's hand."

In February, to add to their miseries, scurvy broke out, and reduced them all to a very helpless condition.

It is needless to follow them through all their sufferings during a long and hard winter; suffice it to say, that they succeeded in breaking out of winter quarters during the first week in July, and eventually, without any further adventures worth mentioning, they reached Bristol on the 23rd of October.

It would not be amiss to wind up the narrative of Captain James's expedition with the following quotation from his journal, and the accompanying lines, which were inspired by his poetical muse on visiting, for the last time, the graves of the men belonging to the *Maria*, who died during the winter at Charlton Island.

"July, 1632. I (Captain James) went to take a look at our dead. I uttered these lines, which, though they may procure laughter in the wiser sort, they yet moved my young companions with some compassion:—

"I were unkind, unless that I did shed
Some tears before I part from our dead.
And when my eyes be dry, I will not cease
In heart to pray their bones may rest in peace.
Their better parts (good souls) I know were given
With an intent they should return to Heaven.
Their bodies they spent to the last drop of blood
Seeking God's glory and their country's good.
So have they spent themselves, and here they lie—
A famous mark of our discovery.
We that survive, perchance may end our days
In some employment meriting no praise,
And on a dunghill rot, where no man names
The memory of us, but to our shames.
They have outlived this fear, and their brave ends
Will ever be an honour to their friends.
The winter's cold that lately froze our blood
Now, were it so extreme, might do this good,
To make these tears bright pearls which I would lay
Tomb'd safely with you, till Doom's fatal day.
So grieved, I kiss your graves and vow to die,
A Foster-father to your memory.

"We cast from shore that afternoon, and I never saw that dreary island of our discovery again."

Captain James's narrative, which was published at some length, has very aptly been described by Sir John Barrow as a "book of lamentation and weeping and great mourning"—a better description of it is impossible. The result of the expedition in a geographical, or other scientific point, was practically nil; from first to last it was a sadly mismanaged affair, and need not further be alluded to.

The failure of Fox and James to discover a North-west Passage seems, for the time, to have been accepted as conclusive evidence of the non-existence or, at any rate, the impracticability of a route being found through Hudson's Bay to the Pacific, and no further attempts were made until the year 1668, when the enterprising and energetic Prince Rupert, supported by a number of wealthy men, obtained by charter from King Charles II. the rights and privileges over all lands that might be discovered in the neighbourhood of Hudson's Bay. This charter is dated 2nd May, 1669, and, although its contents have recently been questioned, it practically remains in force at the present day. It was granted to the "Governor and Company of Adventurers of England trading in Hudson's Bay," and the formation of this company was, in reality, the nucleus of what afterwards became the rich and powerful corporation known as the Hudson's Bay Company. By the terms of this charter, the company obtaining it became possessed of that enormous tract of country which has been known generally as the Hudson's Bay Territory, and which stretches from the Atlantic to the Pacific, and from the shores of the Polar Sea to the 50th parallel of latitude. It was given to the Company and their successors in perpetuity, for "the sole trade and commerce to Hudson's Bay and Straits, with territorial rights and jurisdiction over all the land and countries on the coasts and confines of the same, which were not actually possessed by the subjects of any other Christian prince or state, to be reckoned and reputed as one of the British plantations or colonies in America under the name of "Rupert's Land."

It is, I believe, an incontrovertible fact that France, long before the issue of this charter, in about 1598, laid claim to those vast regions in the immediate neighbourhood of Hudson's Bay, and letters patent were granted by Henry IV. of France to a M. de la Roche, appointing him lieutenant-governor over the countries of Canada, Hochelaga, Labrador, and the river of the great bay of Norrembegue, &c., and the country was in actual occupation by the French, but there is no record of their having regularly established themselves on the shores of Hudson's Bay, although the region was undoubtedly visited, and traversed in various directions, by French voyageurs.

Mr. Fitzgerald, in his work on the Hudson's Bay Company, says that the French Fur Company of Quebec, established forty years before the Hudson's Bay Company, appears to have traversed the whole of the country which the Hudson's Bay Company now claims. For many years, when the English Company never ventured to leave the shores of the Bay, when their establishment consisted of only four or five insignificant stockaded posts on its shores, the voyageurs of the French Company were travelling over the whole of the country, north-west of the Canadas as far, it is said, as the Saskatchewan river.

Among these adventurous travellers was an enterprising Frenchman

named de Grosseliez, who, foreseeing the great advantage that might be gained by trading on a large scale with the natives of the Bay region, prevailed upon some of his countrymen to join with him in the equipment of a ship, provided with the necessary articles for trade, in which he would himself proceed to Hudson's Bay from Quebec. He appears to have experienced but little difficulty in sailing through the Strait, although it was somewhat late in the season before he reached the Nelson river. Here, whilst looking for game and searching the country generally, some of his men reported that they had discovered an English settlement, which M. de Grosseliez immediately determined to attack and capture.

On approaching the spot indicated, a small solitary hut was seen, in which were found half-a-dozen starving wretches on the verge of death, suffering from disease and famine.

The tale they had to relate was a piteous one. They stated that they had formed part of the crew of a Boston vessel, and that they had been despatched from her for the purpose of selecting a suitable place in which the ship could be secured for the winter. Whilst engaged on this duty, the ship had been blown off by a storm, and had not since been seen by them. They were left with hardly any provisions, and would undoubtedly have perished, had they not been rescued and succoured by the French.

Having explored the country in the neighbourhood of the Nelson river, de Grosseliez sailed for Canada, leaving his nephew and five men to pass the winter in Hudson's Bay. Being unsuccessful in his attempt to induce his countrymen, either in Canada or in France, to co-operate with him in his endeavours to establish a settlement on the shores of Hudson's Bay (the account given of the climate by Captain James being in all probability the principal cause of the indifference displayed), he, at the instigation of Mr. Montague, the English Minister at that time in Paris, sought an interview with Prince Rupert, who immediately engaged him to go out in one of His Majesty's ships, not only with the view of trade, but also with the object of discovering a North-west Passage.

The ship selected for this service was the *Nonsuch*, and Captain Zachariah Gillam was appointed to the command, with instructions to take de Grosseliez to Hudson's Bay, and to explore to the northward. Sailing in the summer of 1668, they claim to have reached the latitude of 75° in Davis's Strait, but there is nothing that I can find on record to substantiate such a statement.

The *Nonsuch* then passed through Hudson's Strait, and entering the bay, sailed to the southward, where she passed the winter at the south extreme of James's Bay, in Rupert's river. Here Fort Charles was established. This appears to be the first English fort, or settlement, formed in Hudson's Bay, and was, therefore, the beginning of the

Hudson's Bay Company. Captain Gillam may, in consequence, be regarded as the pioneer and founder of what eventually became an influential and powerful corporation. Little else appears to have been done by the expedition, and the *Nonsuch* returned to England in 1669.

From this date, for a period of fifty years, no interest appears to have been taken in geographical research in the region of Hudson's Bay, although the Company's ships were frequently employed in making the voyage from and to England. In the year 1719, at the instigation of a Mr. Knight, an official in the Hudson's Bay Company, an expedition consisting of two ships, named the *Albany* and *Discovery*, was despatched by the Company, partly for the purpose of discovering a North-west Passage through the Straits of Anian to the South Sea, but more, I think, with a view of discovering a rich mine of native copper, which the Indians reported to exist to the northward.

Captains Barlow and Vaughan were appointed, respectively, to the command of the *Albany* and *Discovery*, but they were also accompanied by Mr. Knight, who, it is said, was, at the time, nearly eighty years of age.

They sailed from Gravesend in 1719, but as three years elapsed without receiving any tidings of them, the Hudson's Bay Company despatched one of their ships, the *Whalebone*, in quest. She sailed from Churchill on the 22nd June, 1722, under the command of Captain John Scroggs. There is but a very brief account of the proceedings of this cruise extant. The ship appears to have reached the latitude 64° 56′, when they anchored under the lee of a promontory, to which the name of Whalebone Point was given. The land from this point trended to the southward of west, and the rise and fall of the tide was observed to be 30 feet. They do not appear to have troubled themselves very much about searching for their missing countrymen, their minds apparently being more fully occupied in endeavouring to discover the locality of a rich copper-mine, the existence of which had been brought to their knowledge by some Indians. They returned to Churchill the same year, without having achieved anything of interest or importance.

It was not until 1767 that the melancholy fate of those in the missing ships *Albany* and *Discovery* was ascertained.

During that year, some of the boats of the Hudson's Bay Company were engaged in the whale fishery as far north as Marble Island, when they discovered, in a harbour near the east end of the island, a number of guns, anchors, and other ships' stores. The ruins of a house were also found, whilst the remains of the hulls of two ships were seen under water. From the articles found, and also from information obtained from the Eskimos, but little doubt remained that these were the vessels commanded by Barlow and Vaughan, who, with their unfortunate crews, had all perished from scurvy or starvation.

The next important expedition that was despatched for the exploration of Hudson's Bay, was that commanded by Captain Middleton, which left

England in 1741. It consisted of the *Furnace* bomb, and the *Discovery* pink, the latter commanded by Mr. William Moor.

The despatch of this expedition was due entirely to the exertions of a Mr. Arthur Dobbs, who prevailed on the Admiralty to allow the *Furnace*, a ship of the Navy, to be appropriated for the service. The first winter, through some unavoidable detention, was passed at Churchill. Thence they sailed on the 1st July, 1742, and proceeding northwards, sailed up the Welcome, until they reached the entrance of the Wager river in latitude 65° 23′. After vainly searching for a passage for some days, they stood to the southward and eventually sailed for England. This expedition, like so many of the preceding ones, was also barren of results. On its return to England a long and acrimonious controversy was carried on between Mr. Dobbs and Captain Middleton, regarding the direction of the tides and other matters, the former accusing Captain Middleton of having acted treacherously, and for having given a false account of his proceedings; and even for having been largely bribed by the Hudson's Bay Company *not* to make any discoveries.

The Admiralty called on Captain Middleton to reply to these charges, which he did at some length, but he does not appear to have done so to the satisfaction of their lordships.

In the year following, viz. 1743, an Act of Parliament was passed, offering a reward of 20,000*l.* for the discovery of a North-west Passage.

Stimulated by this reward, a company was formed which succeeded in raising, by subscription, a sum of 10,000*l.*, divided into 100 shares of 100*l.* each.

Two vessels were purchased, the *Dobbs* galley, of 180 tons burden, and the *California*, of 140 tons. Captain William Moor, who had sailed with Middleton in the previous expedition, was selected for the command, and Captain Francis Smith was appointed to the *California*.

The account of this expedition is related by Mr. Henry Ellis, who, although a seaman, accompanied it in the capacity of agent. Elaborate instructions were drawn up for their guidance, and they sailed from Yarmouth on the 31st May, 1746. Resolution Island was reached on the 8th of July, and although they encountered but very little ice at the entrance to the Strait, their progress was subsequently considerably hindered by it. On the 2nd of August they passed Digges Islands, and then shaped a course for the west side of the Welcome, but being under the impression that the season was too far advanced for further exploration, they proceeded to York Factory, which they reached on the 26th August.

Here, in spite of the inhospitable protestations and incivility, to use no harsher term, of the Hudson's Bay officials, they passed the winter, having hauled the ships into Hayes river. Huts were built on shore in which the officers and men were accommodated. During the winter they were attacked with scurvy, produced in all probability by an inordinate

use of spirituous drinks, for they appear to have been only too well supplied with brandy and beer.

On the 24th June, the ships left York Factory, and proceeded to Marble Island, where they remained comfortably at anchor, whilst a boat, specially fitted for the purpose, was sent to explore, but without any important results. Further exploration was relinquished in August, and the ships proceeded to England, passing Resolution Island on the 9th of September, without hindrance from ice in the Strait.

Regarding the alleged dangers and difficulties in navigating Hudson's Strait, Mr. Ellis writes—"We know that this navigation is far from being so perilous, as it is represented; and it will be shown that there are very good grounds to expect that this passage (viz. the North-west Passage) is not either narrow or encumbered with ice, but may be both passed and repassed in the compass of the same summer."

Captain Middleton also makes light of the difficulties of getting through the Strait; he writes, "We make no account of conquering the current, fogs, &c., in Hudson's Bay and Straits. As to observing the latitude in foggy seasons, I have seldom missed two days together."

In 1748 a Mr. Wales was sent to Churchill by order of the Royal Society.

He reached Resolution Island on the 23rd of July, and saw many icebergs, but had no difficulty in getting through the Strait, and was actually off Cape Churchill on the 7th August. He sailed from Churchill on the same day the following year, and reached England on the 11th of October. He was only nine days going through the Strait, during which time they met with no ice to interfere with their progress, but were much delayed by contrary wind and calms.

During the whole of the eighteenth century, vessels belonging to the Hudson's Bay Company made annual voyages to and from England, to York and Moose Factories. It was very rarely that they failed to make the voyage, and but few of their ships were lost.

One of the masters in the Company's service, a Captain Coats, who had been many years employed in the service, wrote a very practical and interesting treatise in 1750, which he named the Geography of Hudson's Bay. This has, within the last few years, been reproduced by the Hakluyt Society. It contains very clear and concise sailing directions for vessels navigating the Strait and Bay.

In 1791, at the instance of the Governors of the Hudson's Bay Company, a vessel called the *Beaver* was fitted out, and sailed from the Thames on the 2nd of May, with the object of discovering the North-west Passage, round the north-eastern extremity of America, by proceeding up the Welcome. The command was entrusted to a Mr. Duncan, a master in the Royal Navy. He is reported to have encountered much ice in Hudson's Strait, which so delayed him that it was not until the 5th of September that he reached Churchill, where he passed the winter.

They left on the 15th July the following year, and sailing up as far as Chesterfield Inlet returned again to Churchill in August, the crew having mutinied and refused to go any further. It is said that they were encouraged in their rebellious attitude by the first mate, who was an officer of the Hudson's Bay Company.

This was the last expedition undertaken for geographical discovery in the region of Hudson's Bay, until the one sent out by the English Government in 1821, commanded by the late Sir Edward Parry. This was followed in 1824, by that under Captain Lyon in the *Griper*, and, twelve years after, by the one despatched under the command of the late Sir George Back.

The events of these three memorable voyages are matters of history, and are so well known that it would be superfluous on my part even to give, in the very briefest detail, an outline of the work performed by them. I shall therefore content myself with a simple reference to what has been written by the distinguished officers who commanded those expeditions as bearing on the navigation of Hudson's Strait.

The ships under Sir Edward Parry, it will be remembered, were the *Fury* and *Hecla*. Much ice was encountered at the entrance of Hudson's Strait on the outward journey, and nearly the entire month of July was occupied in getting through; but the delay was occasioned as much by adverse winds and calms as by the ice. On the 21st July, Parry writes, "bodies of ice became less and less numerous as we advanced up the Strait from Resolution Island, and none were seen after we had proceeded a few leagues beyond the Upper Savage Islands." On the 25th, he reports "the sea almost free from ice." On the 26th, "saw no ice this day, except a few streams here and there." On the 27th and 28th he writes:—"Ice in great quantities, but the pieces so loose as easily to allow the passage of a ship with a free wind. This ice was so honeycombed and rotten that it appeared in a fair way of being entirely dissolved in the course of a few weeks." This was, in all probability, ice that had drifted down through Fox Channel? The weather on the whole was fine and clear, only four foggy days being recorded during the month of July.

During the return journey of the *Fury* and *Hecla*, they were only five days, namely, from the 17th to the 23rd September, passing through the Strait, during which time no ice whatever was to be seen.

Regarding the best time for navigating the Strait, Sir Edward Parry says:—"Long experience has brought those who frequent this navigation to the conclusion that in most seasons no advantage is to be gained by attempting to enter Hudson Strait earlier than the first week in July, the annual disruption of the ice, which occupies the upper and middle parts of the Strait, being supposed not to take place till about this time. In the course of our single year's experience in these parts, we have seen nothing to recommend a practice different from that at present pursued

by the ships of the Hudson's Bay Company." I cordially concur with every word in this quotation, for it exactly corresponds with my own experience and my own views; but the fact must not be overlooked that this advice is addressed to those who attempt the navigation of the Strait in sailing ships. Steam has made a great revolution in ice navigation. A well-found steamer is able to make her way with ease through the ice in Hudson's Strait in June and July, when a sailing ship would be hopelessly beset, and incapable of pushing on. With regard to the practice pursued by the ships of the Hudson's Bay Company, alluded to by Sir Edward Parry, it stands to reason that the captains of those ships would naturally delay their passage across the Atlantic, so as not to reach the Strait before July or August; for they were well aware that every extra day spent on the passage was a day nearer the disruption of the ice. Their experience told them that a policy of waiting was the wisest, when the chances would be more in their favour of getting through without hindrance from ice.

In 1824 Captain Lyon, in the *Griper*, passed through the Strait in fourteen days, namely, from the 6th to the 20th of August. He sighted some loose heavy ice off Resolution Island, but otherwise experienced no difficulty in getting through. On his homeward journey no ice whatever was seen in the Strait, and he averaged, in his dull old bluff-bowed sailing ship, 150 miles per diem, as he passed through, from Cape Wolstenholme to Resolution Island.

During Sir George Back's memorable and eventful voyage in the *Terror*, in 1836, he encountered much ice in the Strait. But this appears to have been an exceptionally bad ice year. Still he was not more than a fortnight in getting through, namely from the 1st of August, when he was off Resolution Island, to the 14th, when he passed Nottingham Island. His course was then directed up Fox Channel, where his ship was closely beset by heavy ice, in which, helplessly drifting at the mercy of the winds and currents, he was compelled to pass the winter. During a period of six months, the ship drifted 234 miles in a generally south-eastern direction. It is almost impossible for us to conceive, much less to describe, the anxiety that must have been experienced by those on board the *Terror* during those long dark months, when officers and crew were, it may truly be said, momentarily expecting the destruction of their floating home. It was only by the merciful dispensation of an all-wise and protecting Providence that their ship survived the terrible injuries that were inflicted on her by the ice, and she succeeded in making one of the most miraculous voyages on record across the Atlantic. The principal object of this expedition was the delineation of the northern boundary of the North American Continent, or, in other words, to connect the discoveries of Sir John Franklin from Point Turnagain, to those of Sir Edward Parry in Prince Regent's Inlet, but this was unfortunately frustrated by the ice in Frozen Strait.

Although the amount of geographical information obtained was not very great, yet the voyage was exceedingly instructive as showing the general drift of the ice down Fox Channel into Hudson's Strait.

The account of the *Terror's* voyage home embraces one of the most thrilling stories of sea adventure that has ever delighted the readers of this country. When all hope of saving the ship and the lives of the crew had almost died out in the breast of the Captain, the coast of Ireland was sighted; Captain Back then succeeded in running the *Terror* on shore off Buncrana, in Lough Swilly. The men were harassed and worn out by their exertions in keeping the ship afloat, and the vessel herself, leaking like a sieve from the injuries she had sustained in the ice, was only held together by the stream cable being passed round the after part, and so binding her timbers and planking together.

This was the last Government expedition, having geographical research solely for its object, that entered Hudson's Bay. But its waters have been, year by year, navigated by the ships of the Hudson's Bay Company. These vessels were annually despatched from England to York and Moose Factories, at the rate of two, and sometimes three, per annum.

They rarely failed to reach their destinations, for arranging, as they invariably did, to reach Hudson's Strait on their outward voyage in about the first week of August, they experienced but little difficulty from the ice. On their return voyages in September and October, they always found the Strait comparatively clear.

I have in my possession an official record of the voyages out and home, of the Hudson's Bay Company's ship, *Prince Rupert*, for a period of eleven consecutive years, namely, from 1835 to 1846 inclusive. I find that the average time of getting through the Strait, on the outward voyages during this period (and it must not be forgotten that the Strait is 500 miles in length) was 16 days. The longest time was 31 days (probably an exceptionally bad ice year). The shortest time was eight days; the delays in getting through the Strait were invariably caused by calms and adverse winds, and not by the ice. On the homeward passages, no difficulty was experienced from ice in the Strait, and the vessels usually reached London in about five weeks after leaving York Factory. The earliest date for sailing from York Factory was the 6th September, and the latest the 3rd of October. In the latter case the *Prince Rupert* was 38 days on the passage to London; so that it is impossible she could have had any serious detention from ice in the Strait.

It must be remembered that this vessel, and all others then employed by the Hudson's Bay Company, were sailing ships, dependent entirely on wind as the motive power by which progression could be made. Without wind they were helpless; with a foul wind their progress was of course proportionately slow. Wind, therefore, was a matter of great importance in those days, when a vessel was endeavouring to make way

through fields of loose ice; for when the wind falls, the ice invariably loosens, or, as the technical expression is, "goes abroad;" But in such a case, as there is no wind, the unfortunate sailing vessel, being deprived of its only propelling force, is unable to take advantage of the ice being loose to push on. On the other hand, when a breeze springs up, which on ordinary occasions would possibly enable her to make good way, the wind has the effect of packing the ice, thus rendering progress nearly impossible.

Steam has now, however, effected a complete revolution in ice navigation, and the most advantageous time for pushing on is, of course, in calm weather, when the ice is loose. Under similar conditions a sailing vessel would be utterly helpless. It is, therefore, only reasonable to infer that what has been performed regularly, and year after year, for more than 200 years, by wretchedly equipped and ill-found sailing ships, can be accomplished with greater regularity and certainty, by well-found steamers, specially constructed for ice navigation and provided with powerful machinery.

A channel which has been navigated for 270 years, first by the frail little fly-boats of the seventeenth century, then by the bluff-bowed, slow-sailing, exploring vessels of Parry's days, and for a long period by the Hudson's Bay Company's ships, cannot be very formidable, and if sailing ships can annually pass through it, *à fortiori*, steamers will find less difficulty in doing so. But it would, of course, be necessary that such steamers should be specially built and equipped for the service, and it is desirable that despatch should be used in making the voyage.

The nature and consistency of the ice in Hudson's Strait (which will be more fully described further on) are such that, with an efficient steamer, the passage could be accomplished with very little delay or difficulty.

This being the case, it is not surprising to hear that the people of the North-west are to have a seaport on the shores of Hudson's Bay, and to secure the construction of a railroad to connect such a port with Winnipeg or some other equally convenient depot on the newly established line of the Canada and Pacific railroad.

The achievement of such an undertaking would result in shortening the distance that the produce of the country, destined for exportation, would have to be transported by one-half! As the cost of transport by rail is governed by the distance that goods, or passengers, have to be conveyed per mile, it will be at once understood that if the mileage is reduced by one-half, the cost of conveyance will also be diminished in the same proportion. It has been estimated that the result of the construction of a railroad from Winnipeg to Hudson's Bay, would be a clear gain to the farmers and producers of the North-west, of about 3*l.* per head on all cattle exported, and 5*s.* upon every quarter of grain sent for shipment.

These are large items in the profit and loss accounts of those immediately concerned; therefore it is not surprising to hear that the feeling in Manitoba is unanimous in the desire for the immediate construction of a railroad.

What, then, is to prevent the realisation of their wishes, if such pecuniary benefit to all concerned is to be derived from the undertaking? There must be some good reason for not carrying out the work at once, otherwise it would long, ere this, have been commenced.

The serious, in fact the only, obstacle to the establishment of a seaport in Hudson's Bay is, and has been, the supposed formidable character of the ice that it was thought would have to be encountered in Hudson's Strait, and the limited duration of the navigable season.

These were the knotty questions that had to be solved satisfactorily, before action in the desired direction could be taken.

Monopolists, and persons interested in other routes, represent the difficulties offered by the ice in Hudson's Strait as fatal to the success of the project. The question is a purely geographical one, its solution depends on physical considerations, and the controversy is, therefore, a clear gain to the science of geography.

In order to obtain full and accurate information on these important points, the Dominion Government of Canada, with commendable energy, and a praiseworthy determination to solve the long-disputed problem as to the practicability of navigating the Strait annually, resolved upon despatching a vessel for the purpose of establishing stations on both sides of Hudson's Strait, at which continuous daily observations could be taken and recorded on the weather, tide, temperature, condition and movements of the ice, and other facts connected with the meteorology of that region, for a period of at least twelve consecutive months.

With these objects in view, the *Neptune*, a steamer that had been built for, and employed in the sealing trade, was chartered and despatched in the year 1884.

She was in every way admirably adapted for the work she was required to perform, having been specially constructed for ice navigation.

Her voyage was eminently successful; she experienced but little difficulty in passing through the Strait, and she succeeded in establishing stations at the following places:—One named Port Burwell near Ungava Bay, on the south side of the Strait, close to the entrance. Another in the vicinity of the Upper Savage Islands, at Ashe Inlet. Another was immediately opposite, on the south side of the Strait, called Steepart Bay. The fourth was on Nottingham Island; and a fifth was established on one of the Digges Islands, at the opening into Hudson's Bay.

An observer, with a couple of attendants, was placed in charge of each of these stations, with a supply of provisions to last over twelve months.

In the official report of the voyage of the *Neptune*, whilst engaged on

this service, her commander states that had he been making the passage direct to Churchill, instead of coasting and visiting specially-selected places on both sides of the Strait, he is of opinion that he would not have been delayed by ice for more than about forty-eight hours! On the homeward voyage there was no delay whatever in the Strait, no field ice having been encountered.

The *Neptune* can, I believe, fairly lay claim to the honour of having been the first steam vessel that has ever crossed the waters of Hudson's Bay.

On the return of the *Neptune* to Halifax, steps were immediately taken to secure the despatch of a vessel to Hudson's Strait the following year, for the purpose of visiting and relieving the stations established there. In order to assist the Canadian Government in their praiseworthy endeavours to obtain reliable and accurate information regarding the navigation of the Strait, and we will hope also as a recognition of their appreciation of the service that was being carried out, the Imperial Government of England placed H.M. ship *Alert*, a vessel which had already gained a reputation for herself in Arctic research, at their disposal. She was officered and manned by the Canadian Government, and sailed from Halifax in the early part of June, 1885.

She reached the entrance to Hudson's Strait on the 16th June, but through some mismanagement, or want of experience in ice navigation on the part of those who were occasionally entrusted with the charge of the ship, she was allowed to be beset by the ice. No advantage appears to have been taken of her steam power to extricate her. In fact, the reverse seems to have been the case, for in the official report of this voyage we read that, instead of utilising the power that was at their disposal to release her from her imprisonment, they "banked the fires and left the ship to pull under a fore-topsail and foretop-staysail." I am simply quoting the official report!

The "pull," however, does not appear to have been in the desired direction, or, if so, it was misapplied, for we learn that shortly afterwards the stem of the ship was so seriously injured by coming into contact with the ice, that it was considered, not only desirable, but necessary to return to the southward, and they put into St. John's, (Newfoundland), in order to effect the requisite repairs.

These were, however, easily and speedily executed, and by the first week in August the *Alert* was again in Hudson's Strait. The next few days were employed in visiting the stations established the previous year, which was done without much difficulty, and on the 31st of the same month the *Alert* reached Port Churchill, having spent a few days at each station.

Her work being accomplished, she sailed for Halifax, meeting no ice whatever during the return journey, although it was the 7th of October before she was clear of the Strait.

The reports obtained from the different stations regarding the presence and conditions of the ice in the Strait, supplemented as they were by those received from the *Neptune* and *Alert*, were, on the whole decidedly satisfactory, in so far as they bore on the question of the safe navigation of Hudson's Strait during a certain period of the year.

In the following year, namely in 1886, it was again resolved by the Dominion Government to despatch the *Alert* to Hudson's Bay. But this time it was with the object of dismantling the stations in the Strait, and taking the observers back to Halifax, as it was considered that the work for which they had been engaged was accomplished.

By a fortunate accident I was able to avail myself of an invitation I had received to take a passage in the *Alert* during this cruise.

I considered myself very fortunate in having the opportunity afforded me of doing so, for it had long been my wish to visit Hudson's Bay, and I had almost decided upon accomplishing this object by travelling from Winnipeg by land and by canoe. The offer, therefore, of going in the *Alert*, which would enable me to make the passage of the Strait, as well as of the Bay, was too good to be refused, and I eagerly availed myself of it. There was only one stipulation, and that was that I should, in return for the passage offered, at the termination of the voyage, submit a report on the state and conditions of the ice, as observed by me, in Hudson's Strait, and my views generally regarding the practicability of the route as a commercial highway, and my opinion relative to the duration of the navigable season. I had no hesitation in acceding to these conditions.

I might observe that I was quite ignorant of the controversy that had been carried on for some time between those who were in favour of Hudson's Strait as a commercial route, and those who were opposed to it. I was untrammelled by orders or suggestions, and felt myself a free agent from whom a perfectly impartial and unbiassed opinion was expected.

Under these circumstances I joined the *Alert* at Halifax, and sailed in her from that port on the 23rd of June.

On the 5th July we reached the entrance of Hudson's Strait, where we were detained for four days, partly by thick weather and partly by loose streams of ice; but the latter were never packed sufficiently close to prevent even a slow steamer like the *Alert* from making fairly good progress. The ice that we encountered was of a soft brashy consistency, the greater part of it being honeycombed from the action of the water, and in an advanced state of disintegration. Whilst thus delayed at the entrance of the Strait, we observed the same curious commotion of the water that had been commented on by Davis, Parry, Back, and other navigators. Davis called it, on the globe of 1593, the "furious overfall." It is not easy to account for these turbulent eddyings and overfalls, unless they be caused by the rapidity of the water rushing over an irregular and rocky bottom. Frequently we would

see comparatively large pieces of ice being swept, with great velocity, in *opposite* directions, although in close proximity to each other. The ice, on these occasions, was evidently very much influenced by local forces, such as *tides*. So far as we were able to discover, the flood—or west-going—tide caused the ice to slacken, whilst a contrary effect appeared to be exercised on it by the ebb. From the 9th to the 11th of July scarcely any ice was seen, and a distance of over two hundred miles was accomplished in about thirty-six hours. This fact alone, without further comment, is in itself sufficient evidence to show how free the eastern part of the Strait was from ice; for the *Alert*, if driven at her full speed, could only steam about six knots an hour.

Early on the morning of the 11th of July we arrived off the station on the north side of the Strait, and anchored in a snug little bay at one of the Savage Islands called Ashe Inlet. The observers were found to be in perfect health, and they had spent a pleasant winter, having been well supplied with reindeer meat by the Eskimos. They informed us that the ice did not form in the Strait before December, and that the channel was perfectly free for navigation during the entire month of November. Game appeared to be plentiful in the neighbourhood of the station. Numerous herds of reindeer were met with during the winter, and hares were reported as abundant on an adjacent island; whilst bears, seals, and walrus were frequently seen.

After a brief stay at the Savage Islands, the *Alert* continued her voyage through the Strait, but her progress was so retarded by ice that it took her nine days to accomplish a distance of about three hundred miles. This slow progress was mainly caused by the absence of sufficient steam power to enable her to thread her way through the loose ice, and also by a want of vigilance in taking advantage of the diurnal and other movements of the ice to push on. A knowledge of ice navigation, like everything else, cannot be acquired at once. Practical experience, unceasing vigilance, and a happy knack of doing the right thing at the right moment, are essential qualifications for those seamen who desire to become successful ice-navigators.

The ice that we encountered in the western part of the Strait was somewhat different and heavier than the ice we passed at the eastern entrance. It was composed chiefly of small pieces, packed loosely together, appearing as if the floes, by some sudden, or even gradual convulsion, had been broken up into small pieces, and then drifted together into one large pack. This peculiar feature of the ice in Hudson's Strait is one that I have never observed in other parts of the northern seas, and it is worthy of consideration when the question of the practicability of navigating the Strait is under examination. For it is these innumerable small pieces that, in a great measure, deprive the pack of the power of seriously injuring any vessel that may be beset in it—for when any pressure takes place, the smaller pieces, being composed of soft brashy ice, act as

cushions between the ship and the larger floes, and thus protect the vessel from a violent squeeze or nip.

The greater part of this ice was, I think, formed in Fox Channel, whence it drifts down to the Strait after the disruption of the ice in the summer. Occasionally a few large floes were seen, some of which I estimated to be about half a mile in length, but a floe of this size was quite exceptional. The thickness of the floe ice was from 6 to 12 feet, but it was all more or less rotten, and advancing rapidly towards dissolution; some of the pieces were, apparently, of unusually deep flotation, but this was mainly due to their complete saturation by water, owing to their soft and brashy consistency.

A peculiar feature in connection with the heavier and larger floes that we met, was the irregularity and unevenness of their surfaces. A perfectly level floe of any extent, having a flat level surface, was rarely seen; they were usually crowned with a succession of excrescences resembling small hillocks. This gave me the impression that these floes were composed of innumerable small pieces of ice, which, having escaped dissolution during the preceding summer, had been cemented together into one large mass by the snow and frost of the succeeding winter—the mounds that we observed being the hummocks that had formed round the edges of the smaller pieces, round which heaps of snow had accumulated, which in process of time had been converted into ice.

Many of these floes were discoloured by dirt and débris blown off from the shore; on a few of them I noticed thick mud adhering, evidence, in my opinion, that they were formed in the immediate neighbourhood of land, and did not, therefore, form part of the ice that had been made in the Strait during the winter. This heavy ice that we encountered had probably drifted down from Fox Channel, where large thick floes are known to exist.

No icebergs were seen to the westward of the Savage Islands, which seems to show that all those we passed to the eastward and at the entrance of the Strait had floated down from Davis Strait, or, at any rate, were the produce of glaciers north of Resolution Island.

During the time that we were in the Strait, the weather was generally fine, the average temperature being about 35° Fahr., although on some days the thermometer would rise to 50°; but again, on others, it would fall as low as 20°. The prevailing wind was from the westward, but from whatever direction it blew, it appeared to have but little effect on the movements of the ice, which were invariably erratic and uncertain, and governed by no regular appreciable laws. When we have more accurate information regarding the tides in Hudson's Strait, further light will, in all probability, be thrown on the movements of the ice, tending to simplify navigation.

After being in the ice for upwards of eight days, the *Alert* arrived at Digges Island (where one of the observatories had been established) on

the 20th July. This island, which forms a leading feature in the story of Hudson's voyage, consists of bare hills of gneiss, rising to a height of about 500 feet. The hills are intersected by broad valleys, carpeted with moss and coarse grass. The vegetation compares very unfavourably with that of some of the small islands on which I have landed off Novaya Zemlya, and which are in a much higher latitude. On the coasts of the latter the southern current warms the air and produces a comparatively luxuriant flora, while the former is exposed to cold Arctic streams.

After leaving the Digges Islands, where a few days were spent in overhauling the machinery of the ship, &c., the open water of Hudson's Bay was reached, and from that time, with the exception of passing through a few loose streams of broken-up stuff, no ice was seen. The *Alert* dropped anchor in Churchill Harbour on the 29th of July, without encountering any further difficulties from the enemy with which she had for ten days been contending.

From Churchill the *Alert* proceeded to York Factory, where I left her, travelling on to Winnipeg by canoe.

On her return passage through Hudson's Strait the *Alert* revisited the different stations without experiencing any difficulties from the ice, and having embarked the observers and their attendants and dismantled the stations, she returned to Halifax.

The result of all the experience gathered from voyages during two centuries, and from more recent observations at the stations, is that Hudson's Strait is perfectly navigable and free from ice in August and later in the season. It must not be forgotten that the passage of the Strait has been successfully accomplished nearly every year for the last 200 years, and the vessels that have been employed on this service have been ordinary sailing ships, dependent entirely on wind and weather. It is very rare indeed that they have failed to get through, and still more rare that any of them have been destroyed by the ice.*

The percentage of losses by shipwreck of those vessels that have been employed in both mercantile and exploratory service in Hudson's Bay, is far less than would have to be recorded in a like number of ships engaged in general ocean traffic. I am not far wrong in saying that since the keel of Hudson's good ship ploughed the waters of the Strait, the passage has been made over 500 times, whilst the losses due to the ice might be summed up on the fingers of one hand, and some of these losses were due to causes with which the ice had nothing to do. For instance, the recent loss of the *Cam Owen* was in no way connected with ice.

It must not be forgotten that the ships employed on the service were

* According to the official records of the Hudson's Bay Company, it appears that Moose Factory, at the south extreme of Hudson's Bay, has been visited annually by a ship since 1735, with but one exception, namely, in 1779, when the vessel for once failed to achieve the passage of the Strait.

not only, as I have said before, sailing vessels, but they were also small, frail, and but indifferently found and equipped. Steam has now robbed ice-navigation of many of its difficulties and dangers; and it is only fair for us to assume that, with the facilities and appliances that science has since revealed to us, we can, in these days, achieve with greater ease and celerity, and with more assured certainty, as much as was accomplished by Hudson and Baffin, by Button and Luke Fox, and others, in their rude and poorly-equipped fly-boats, more than 200 years ago.

The vessels, however, to be employed on such a service should be specially constructed to resist an ordinary ice-pressure, and should be provided with sufficient power to be able to steam from ten to twelve knots at least. We, in the *Alert*, were frequently detained for many consecutive hours at a time, for want of sufficient power to propel the ship through loose streams of ice, which an ordinary steamer would have had no difficulty in penetrating. It is necessary that all vessels employed in ice navigation should be strengthened, especially in the bows, not so much for the purpose of resisting the pressure of the ice, if beset, as to repel the severe blows which must occasionally be inflicted by unavoidably striking unusually heavy pieces, whilst threading their way through a stream of ice.

In conclusion, I would remark that if the railroad from Winnipeg to Hudson's Bay becomes *un fait accompli*, there is but little doubt that the terminus of the line should be at Churchill, and not at York Factory as has been suggested, notwithstanding that the length of the line would have to be increased by about fifty miles through an unproductive country.

Churchill possesses a fine natural harbour, perfectly land-locked and protected from all winds, and is admirably adapted for commercial purposes—piers, wharves, &c., being easily constructed.

York, on the other hand, has no harbour; is a perfectly open roadstead, exposed to all winds; and in the event of a north-east gale it is an anchorage from which ships would be compelled at short notice to put to sea. The anchorage is also some eight to twelve miles, according to the draught of the ship, from the shore.

There is no comparison between the fitness and adaptability of the two places for the terminus of the railway.

I sincerely trust that the ensuing year will see the question of the practicability of navigating Hudson's Strait solved, by the construction of a railroad from Winnipeg to Port Churchill. This is really the only practical solution of the difficulty, and the only way this hitherto vexed question can be settled.

The case then can be very briefly summed up as follows: If sailing ships have annually taken the furs and other merchandise of the Hudson's Bay Company through the Strait for the last two centuries, *à fortiori* it may be looked upon as certain that powerful steamers will

be able to do the same for the produce brought to the west coast of Hudson's Bay by a railway from Winnipeg.

The establishment of new routes for commerce is always a gain to the science of geography. In some cases new regions have to be discovered and explored. In others, the physical aspects of an already known region must be more carefully studied, and many points of interest relating to the action of climate, or of winds and currents, may be ascertained. The proposed Winnipeg and Hudson's Bay Railroad is a striking instance. The objections of opponents to the route have had to be carefully examined. All former experience had to be collected, maturely considered, and passed in review. Observatories had to be established at several points, to make certain whether the historical records actually coincided with physical facts as they now exist. The route itself had to be sailed over and explored. All these various researches have been as great a gain to geography as to commerce. They have enriched our science with a fresh stock of information, have revised previous conceptions, and confirmed, or rejected, as the case may be, the theories and views which may, from time to time, have been put forward. From this point of view, and from this point of view alone, can commercial or political questions receive consideration here. The study of the Hudson's Bay route involves a problem for which physical geography alone can furnish a solution; and on these legitimate grounds I have ventured to submit it for the consideration of our Society. My labours will be more than rewarded if I have succeeded in my endeavour to give a new point of interest to a region which, although already well known, is exceedingly interesting, and is the direct road to unknown parts of the earth.

If the undertaking is carried out and brought, as I have no doubt it will be, to a successful issue, I shall feel that my trip to Hudson's Bay has not been either labour or time thrown away; and I shall feel myself amply rewarded for a journey that has not been unattended by certain hardships and privations, by the knowledge that I have been instrumental in assisting in the carrying out of a great work that cannot but be beneficial to our brethren residing on the opposite side of the Atlantic, and therefore an undertaking in which we, on this side, should feel deeply interested.